



2

Planning Commission Study Session

TO: PLANNING COMMISSION / DESIGN REVIEW BOARD

FROM: ASHLEE MACDONALD, AICP, SENIOR PLANNER *am*
(480) 503-6748, ASHLEE.MACDONALD@GILBERTAZ.GOV

THROUGH: CATHERINE LORBEER, AICP, PRINCIPAL PLANNER *chl*
(480) 503-6016, CATHERINE.LORBEER@GILBERTAZ.GOV

MEETING DATE: JUNE 3, 2020

SUBJECT: A. Z20-03 TRILOGY AT POWER RANCH: REQUEST TO AMEND ORDINANCE NO. 1450 TO AMEND THE CONDITIONS OF DEVELOPMENT WITHIN THE TRILOGY AT POWER RANCH PLANNED AREA DEVELOPMENT (PAD) FOR APPROX. 5.74 ACRES LOCATED AT 4369 E. VILLAGE PARKWAY AND ZONED PUBLIC FACILITIES/INSTITUTIONAL (PF/I) ZONING DISTRICT WITH A PAD.

B. DR19-128 (DR97-62-G), TRILOGY PICKLEBALL AND TENNIS RENOVATIONS

STRATEGIC INITIATIVE: Exceptional Built Environment

To allow for the redevelopment of recreational facilities within the Trilogy at Power Ranch community

REQUEST

- A. Z20-03 TRILOGY AT POWER RANCH: Request to amend Ordinance No. 1450 to amend the conditions of development within the Trilogy at Power Ranch Planned Area Development (PAD) for approx. 5.74 acres located at 4369 E. Village Parkway, and zoned Public Facilities/Institutional (PF/I) zoning district with a PAD.

- B. DR19-128 TRILOGY AT POWER RANCH: Trilogy Pickleball and Tennis Renovations: Site plan, landscape, grading and drainage, elevations, floor plans, lighting, colors and materials, for approximately 5.74 acres, located at 4369 E. Village Parkway, and zoned Public Facilities/Institutional (PF/I) with a Planned Area Development (PAD) overlay.

RECOMMENDED MOTION

Request for input only. No motion required.

APPLICANT

Company: Withey Morris, PLC
Name: Adam Baugh
Address: 2525 E. Biltmore Cir. Ste A-212
Phoenix, AZ 85016
Phone: 602-230-0600
Email: adam@witheymorris.com

OWNER

Company: Trilogy at Power Ranch
Name: Ian Welsh
Address: 4369 E. Village Parkway
Gilbert, AZ 85298
Phone: 480-279-2051
Email: ian@tprcoa.com

BACKGROUND/DISCUSSION

History

Date	Description
<i>February 5, 1985</i>	Town Council approved A85-02 annexing the subject site into the Town.
<i>July 22, 1997</i>	Town Council approved Z96-30 (Ord. 1048) rezoning the subject site and creating the Power Ranch PAD.
<i>March 2, 1999</i>	Town Council approved Z98-36 (Ord. No. 1156) amending the Power Ranch PAD by rezoning portions of the Power Ranch PAD and modifying the Golf/Open Space land use.
<i>July 20, 1999</i>	Town Council approved Z99-08 (Ord. No. 1187) amending the Power Ranch PAD by rezoning portions of the Power Ranch PAD and amending certain development standards within various residential zoning districts.
<i>June 20, 2000</i>	Town Council approved Z00-07 (Ord. No. 1284) amending the Power Ranch PAD by adding 31.6 acres to the PAD, rezoning property within the PAD and modifying development standards within the R-TH zoning district
<i>January 21, 2003</i>	Town Council approved Z02-21 (Ord. No. 1450) amending development standards within the Power Ranch PAD and consolidating all previous Power Ranch PAD ordinances.

Overview

The subject site is part of the Power Ranch PAD that was initially established in 1997 with numerous amendments made as the Power Ranch master planned community developed. Trilogy at Power Ranch is a portion of the overall Power Ranch PAD located south of Queen Creek Road. Trilogy at Power Ranch is a gated active adult community that includes a golf course and a community clubhouse with a variety of amenities. The site is accessed via Ranch House Parkway.

The applications under review include a PAD amendment (Z20-03) to modify building and landscape setbacks and a Design Review (DR19-128).

Surrounding Land Use & Zoning Designations:

	Existing Land Use Classification	Existing Zoning	Existing Use
North	Residential >3.5-5 DU/Acre	Single Family – 6 (SF-6/PAD)	E. Village Pkwy then residential
South	Public Facilities/ Institutional	Public Facilities/ Institutional (PF/I/PAD)	Trilogy clubhouse and parking lot
East	Residential >3.5-5 DU/Acre	Single Family – 6 (SF-6/PAD)	Residential
West	Residential >3.5-5 DU/Acre	Single Family – 6 (SF-6/PAD)	Residential
Site	Golf Course	Public Facilities/ Institutional (PF/I/PAD)	Sport courts

Project Data Table

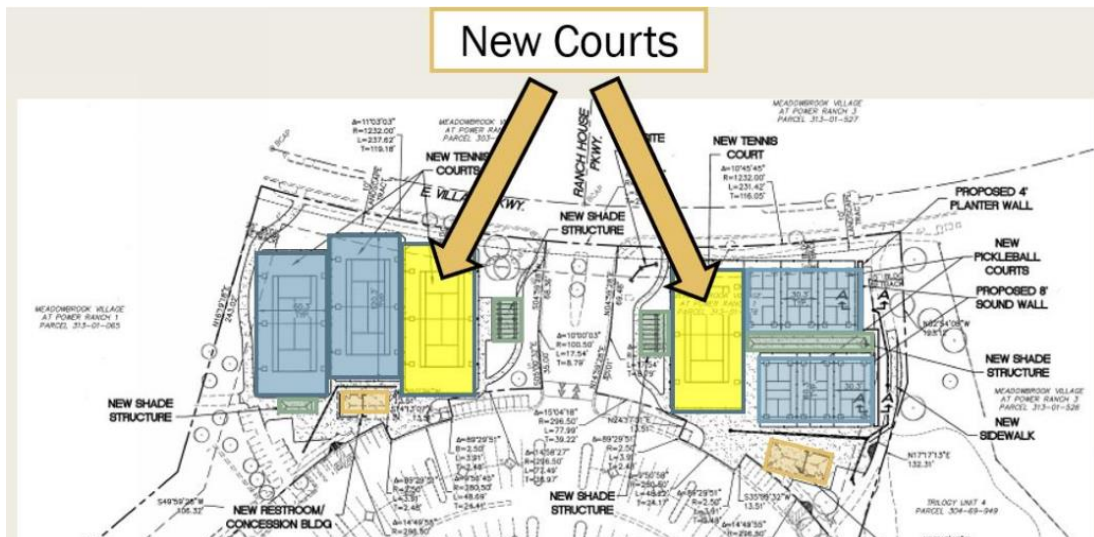
Site Development Regulations	Required per LDC and Ord. No. 1450	Proposed
Maximum Building Height (ft.)/(Stories)	55'	
Minimum Building Setback (ft.)		
Front	25	10
Side (Residential)	25	25 (east) 10 (west)
Rear (Non-residential)	15	
Separation Between Buildings (ft.)	15	15
Minimum Required Perimeter Landscape Area (ft.)		
Front	20	10
Side (Residential)	15	15 (east) 10 (west)
Rear (Non-residential)	15	15
Landscaping (% of net lot area)	15	

DISCUSSION

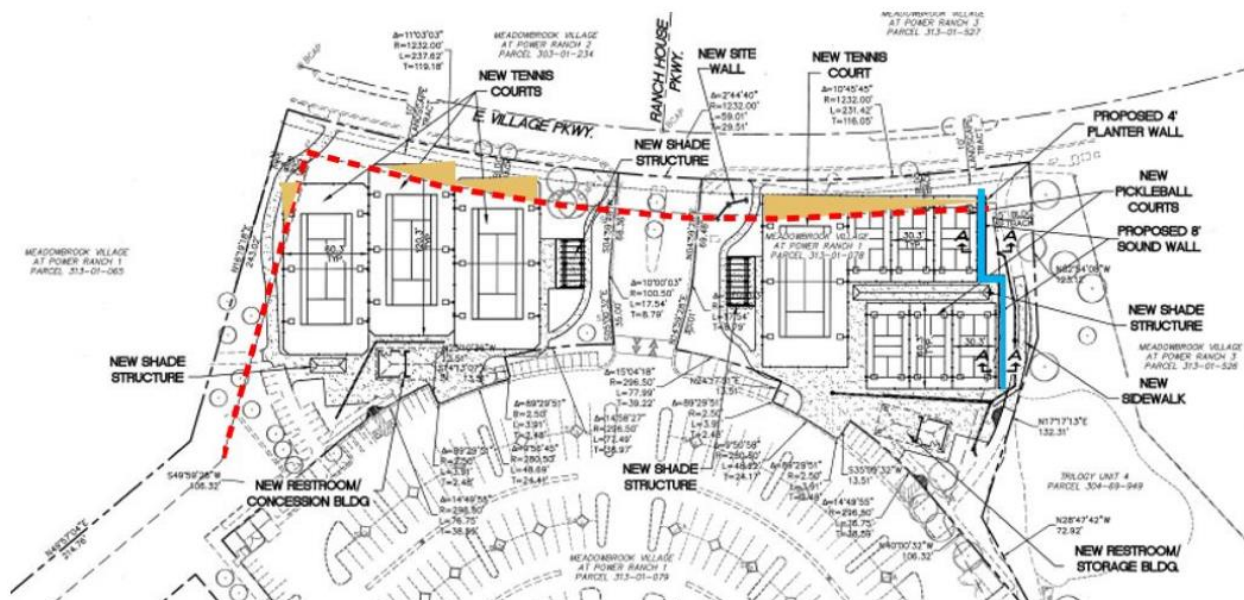
PAD Amendment

There are four existing courts located at the clubhouse entrance. The two existing easternmost courts allow both tennis and pickleball (four courts on each for total of 8). The

HOA has proposed that the two easternmost courts be reconfigured and transition to pickleball courts and one new court be added to each side of the entry as shown below. These changes would result in four tennis courts and 6 dedicated pickleball courts as shown below.



The reconfiguration of the courts locates them closer to E. Village Parkway and into the existing setback to maintain the newly renovated parking lot. The applicant is therefore requesting a deviation to allow the courts within 10 feet of the northern property line and a portion of the western property line.



It is important to note that the PAD requires that 75% of the total required open space area shall contain active recreation uses and allows for revisions and relocations of parks and open spaces.

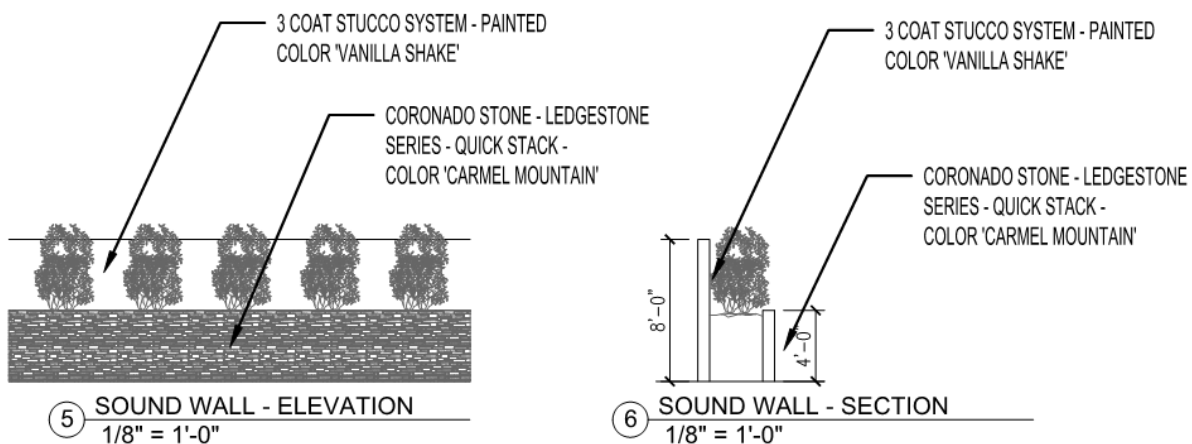
Design Review

The proposed Trilogy sport court renovations include not only the addition of courts, but also the addition of restroom and storage buildings and a shade canopy. The proposed restroom/storage building is designed to match the existing HOA facility buildings. Currently the applicant has proposed a Rustic Red corrugated metal roof with Vanilla Shake stucco and stone wainscot. Staff has provided the colors and materials utilized on the existing building and asked the applicant to modify the color palette to utilize the existing palette.

The proposed shade canopy, located between the pickleball courts, consists of a fabric canopy over black steel columns. Staff is concerned with the use of a fabric shade canopy and its durability.

Lighting is proposed on all courts at a mounting height of 18'. LED area lights are proposed and incorporate house-side shields in proximity to the existing residences to reduce glare from the fixtures. In addition the applicant has complied with staff's request that the kelvin temperature of the lights not exceed 3000K to provide a warm white light that is easier on eyes.

Finally, the applicant has completed a sound study to evaluate the noise impacts of the pickleball courts. As a result of this study and resident comment, a sound wall has been proposed on the eastern side of the site between the pickleball courts and the nearby residences. The sound wall is proposed to be 8' tall stucco wall painted to match the restroom buildings and incorporates a 4' stone retaining wall to provide a planter area for shrubbery.



PUBLIC NOTIFICATION AND INPUT

The proposed project will require public notice as specified under Land Development Code (LDC) Section 5.602.A.3.

REQUESTED INPUT

1. Front and side setback deviation request

2. Overall site design

Respectfully submitted,

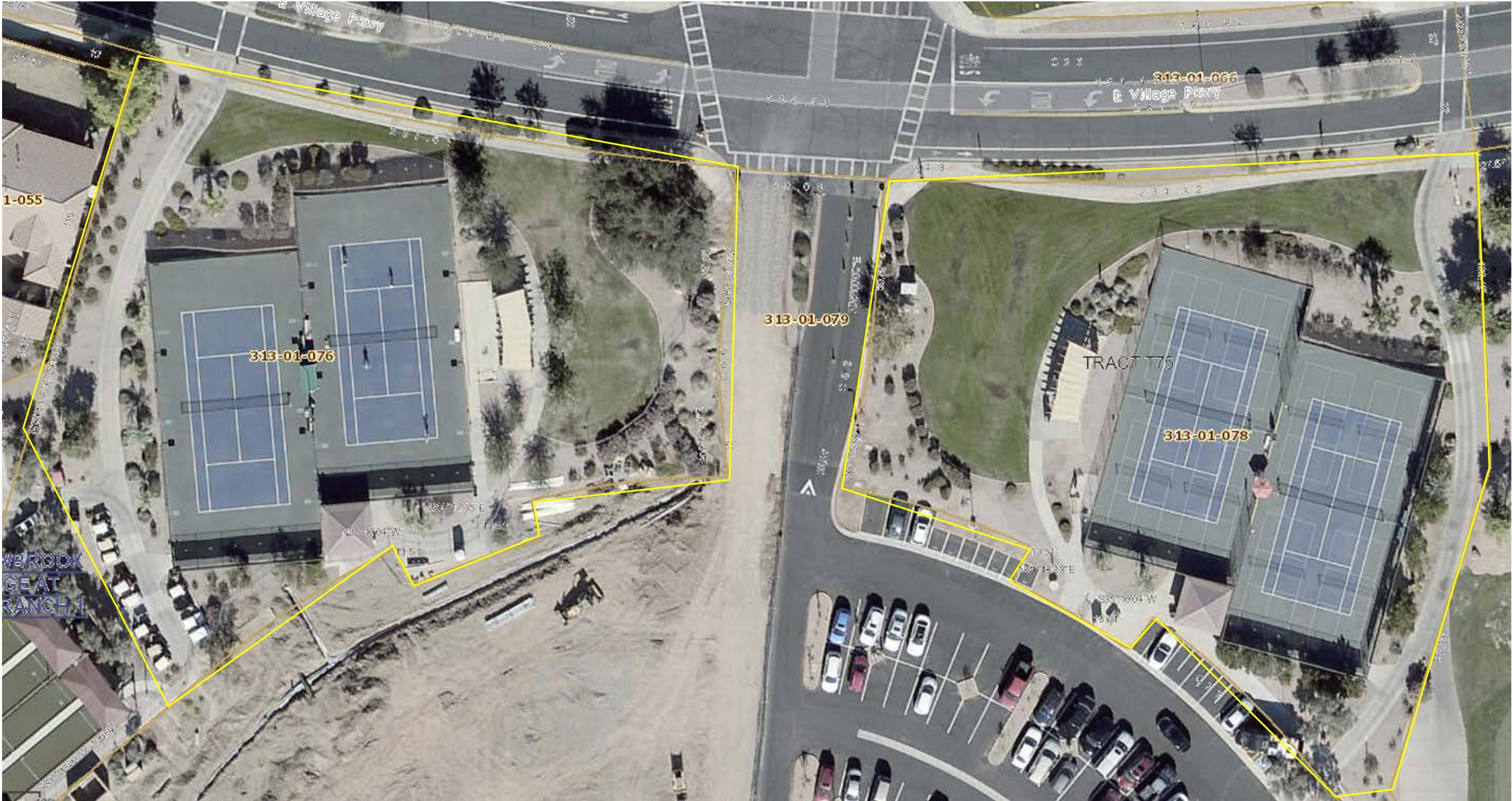
A handwritten signature in cursive script that reads "Ashlee MacDonald".

Ashlee MacDonald, AICP
Senior Planner

Attachments and Enclosures:

- 1) Aerial Photo
- 2) Zoning Exhibit
- 3) Development Plan
- 4) Site Plan
- 5) Landscape
- 6) Elevations/Colors and Materials
- 7) Lighting
- 8) Applicants Narrative
- 9) Noise Study

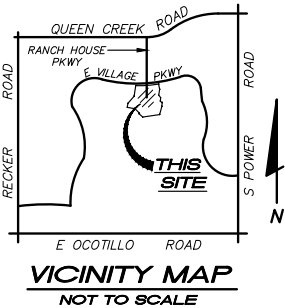
Exhibit 3: Parcel Map/Aerial Map



ZONING EXHIBIT

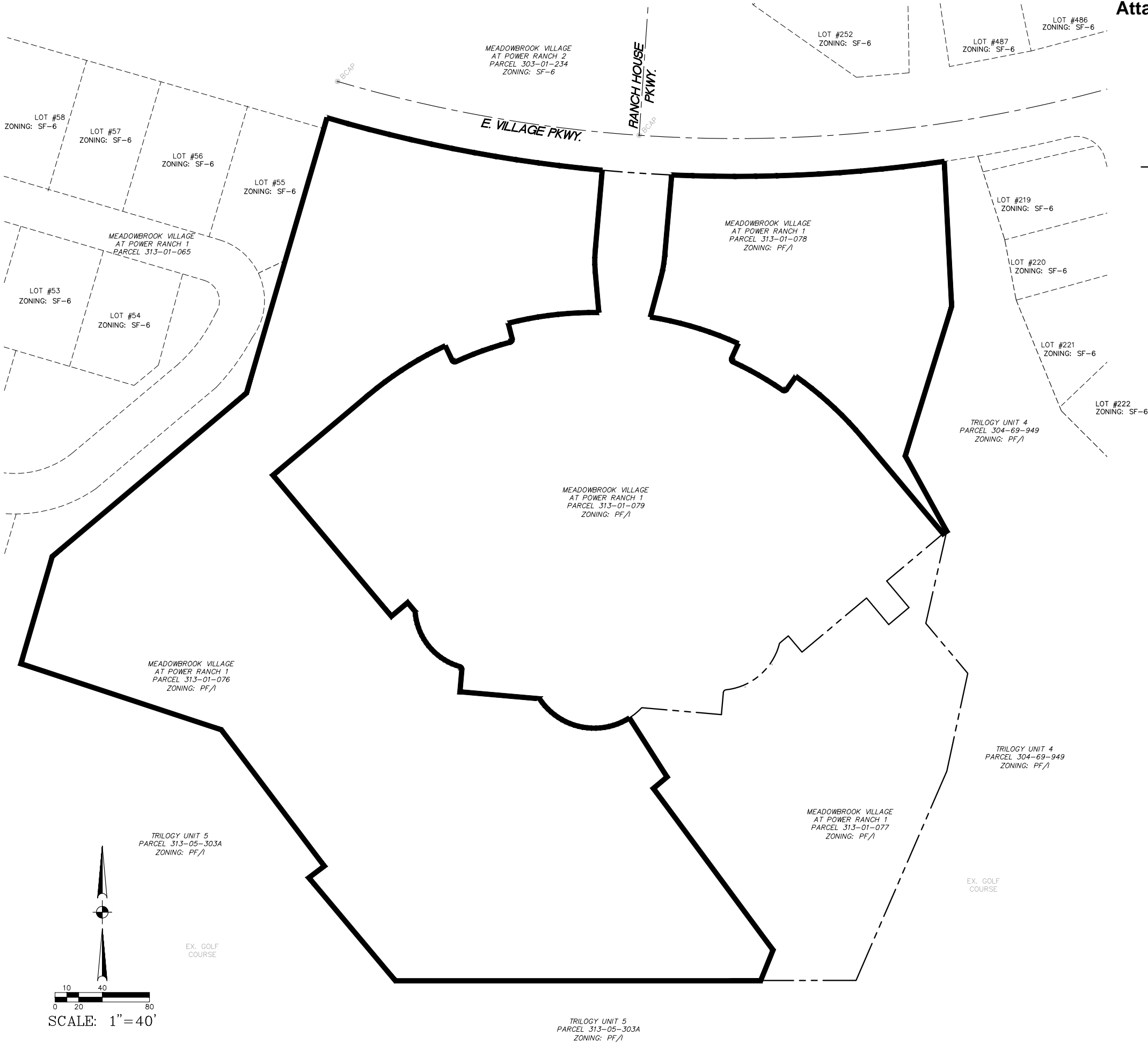
FOR
TENNIS COURTS AND
PICKLEBALL COURTS
AT
TRILOGY AT POWER RANCH

SITE ADDRESS: 4369 E. VILLAGE PKWY
GILBERT, ARIZONA 85298



PROJECT DATA TABLE:

NET & GROSS LOT SIZE:
5.25 ACRES OR 228,664.52 S.F.
BASE ZONING DISTRICT(S):
CURRENT - PAD PF/I
PROPOSED - PAD PF/I
GENERAL PLAN CLASSIFICATION(S):
GFC
PERCENT OF TOTAL ACREAGE IN EACH ZONING DISTRICT:
100%
AVAILABLE PUBLIC UTILITIES:
WATER - TOWN OF GILBERT
SEWER - TOWN OF GILBERT
ELECTRIC- SRP
GAS - SOUTHWEST GAS



PAD SITE PLAN

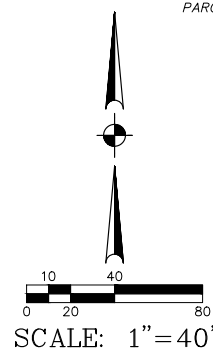
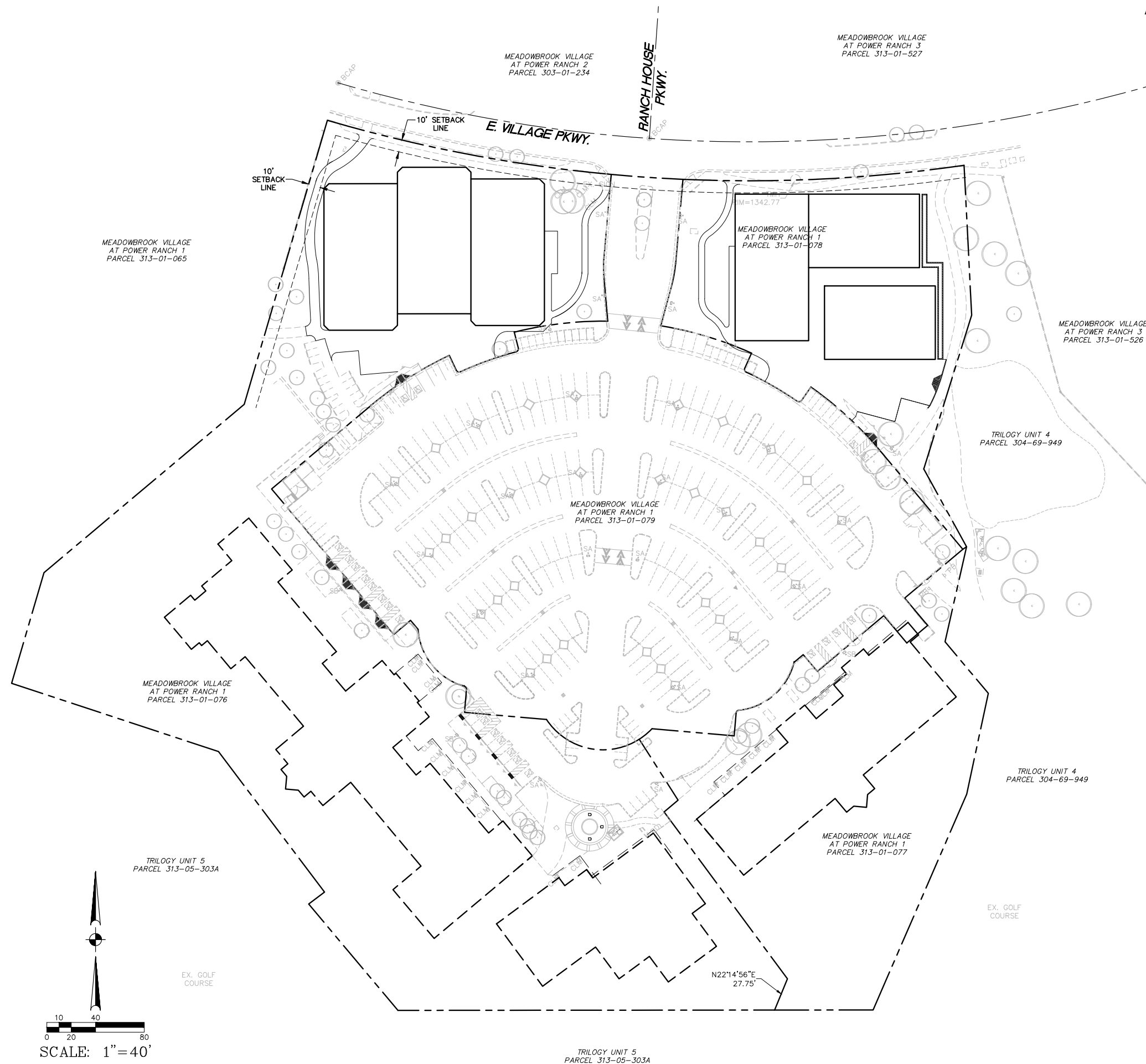
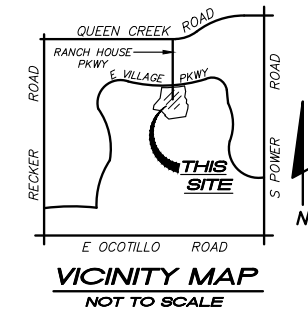
FOR

TENNIS COURTS AND
PICKLEBALL COURTS

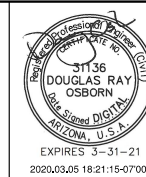
AT

TRILOGY AT POWER RANCH

SITE ADDRESS: 4369 E. VILLAGE PKWY
GILBERT, ARIZONA 85298



Z20-03, DR19-128: Trilogy at Power Ranch Pickleball
Attachment 4 - Site Plan



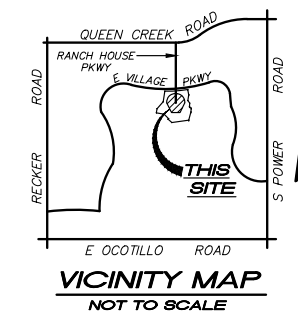
HESS - ROUNTREE, INC.
CONSULTING ENGINEERS & LAND SURVEYORS
9831 SOUTH 51ST STREET, SUITE C110
PHOENIX, ARIZONA 85044 (480)496-0244

DES. **DRO** DRN. **ANM** CKD **DRO** JOB NO. **1407-06C**

PRELIMINARY ONLY
NOT FOR CONSTRUCTION

SITE PLAN
FOR
TENNIS COURTS AND
PICKLEBALL COURTS
AT
TRILOGY AT POWER RANCH

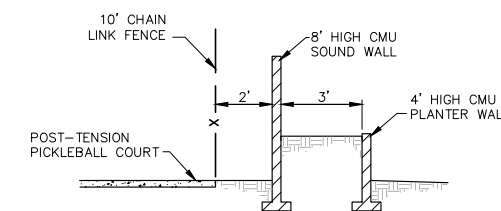
SITE ADDRESS: 4369 E. VILLAGE PKWY
GILBERT, ARIZONA 85298



PROJECT NARRATIVE:

THIS PROJECTS CONSISTS OF THE RENOVATION OF THE EXISTING TENNIS AND PICKLEBALL COMPLEX AT THE TRILOGY AT POWER RANCH SITE AT 4369 E VILLAGE PARKWAY. THE WEST SIDE OF THE EXISTING TENNIS/PICKLEBALL COMPLEX CONSISTS OF TWO TENNIS COURTS. THESE TWO EXISTING COURTS WILL BE DEMOLISHED AND THREE NEW TENNIS COURTS WILL BE INSTALLED. A NEW 394 SQUARE FOOT BUILDING WITH RESTROOMS AND A STORAGE AREA WILL BE INSTALLED. THE EAST SIDE OF THE EXISTING COMPLEX CONSISTS OF 8 PICKLE BALL COURTS THAT WERE INSTALLED ON TWO TENNIS COURTS IN 2014. THESE JOINT USE COURTS WILL BE DEMOLISHED AND 6 NEW PICKLEBALL COURTS AND 1 NEW TENNIS COURT WILL BE INSTALLED. A NEW 394 SQUARE FOOT BUILDING WITH RESTROOMS AND STORAGE AREA WILL ALSO BE INSTALLED ON THIS SIDE OF THE COMPLEX. THE NEW BUILDINGS WILL MATCH THE EXISTING BUILDINGS IN STYLE, ARCHITECTURE, COLORS, ETC. NEW LANDSCAPING WILL MEET THE TOWN OF GILBERT REQUIREMENTS AND WILL BE CONSISTENT WITH THE EXISTING LANDSCAPING ON THE SITE.

THE PARKING REQUIREMENTS WILL NOT BE CHANGED BY THE PROPOSED COURT MODIFICATIONS. PER AUP 16-13, 262 STALLS ARE REQUIRED AND PROVIDED.



SECTION A-A
NOT TO SCALE

LEGEND:

PROPOSED CONCRETE SIDEWALK

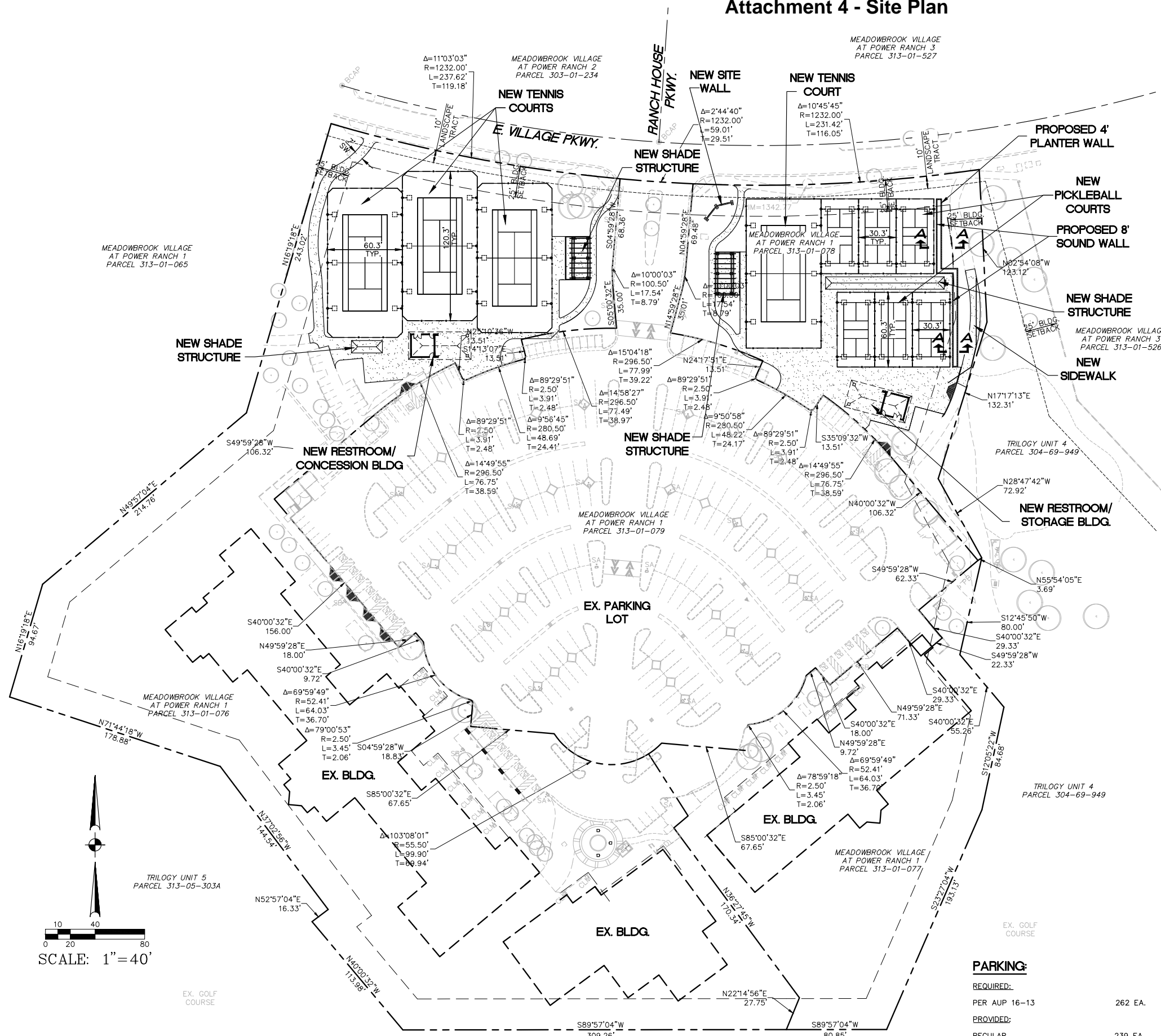
PARKING:

REQUIRED:
PER AUP 16-13 262 EA.

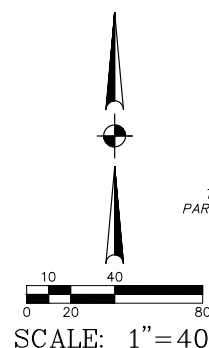
PROVIDED:
REGULAR 239 EA
HANDICAP 23 EA
GOLF CART 42 EA

EXHIBIT 4

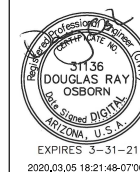
TRILOGY AT POWER RANCH			
TENNIS AND PICKLEBALL COURTS FOR TRILOGY AT POWER RANCH			
DRAWING STATUS	SHEET	OF	SP-1
	1	1	
DATE: 3/04/20			



STORAGE BUILDINGS WILL
HAVE FIRE SPRINKLERS



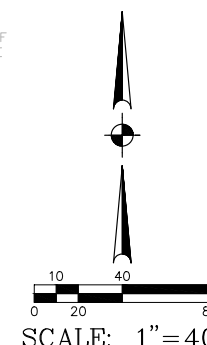
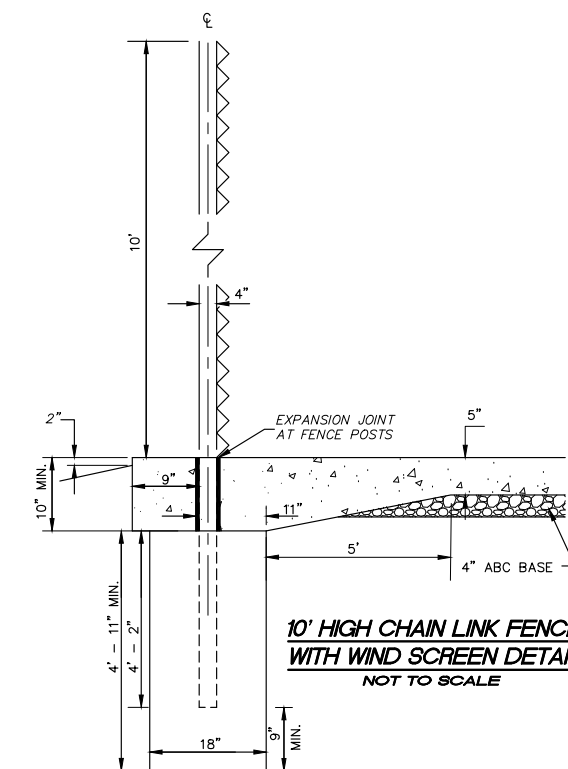
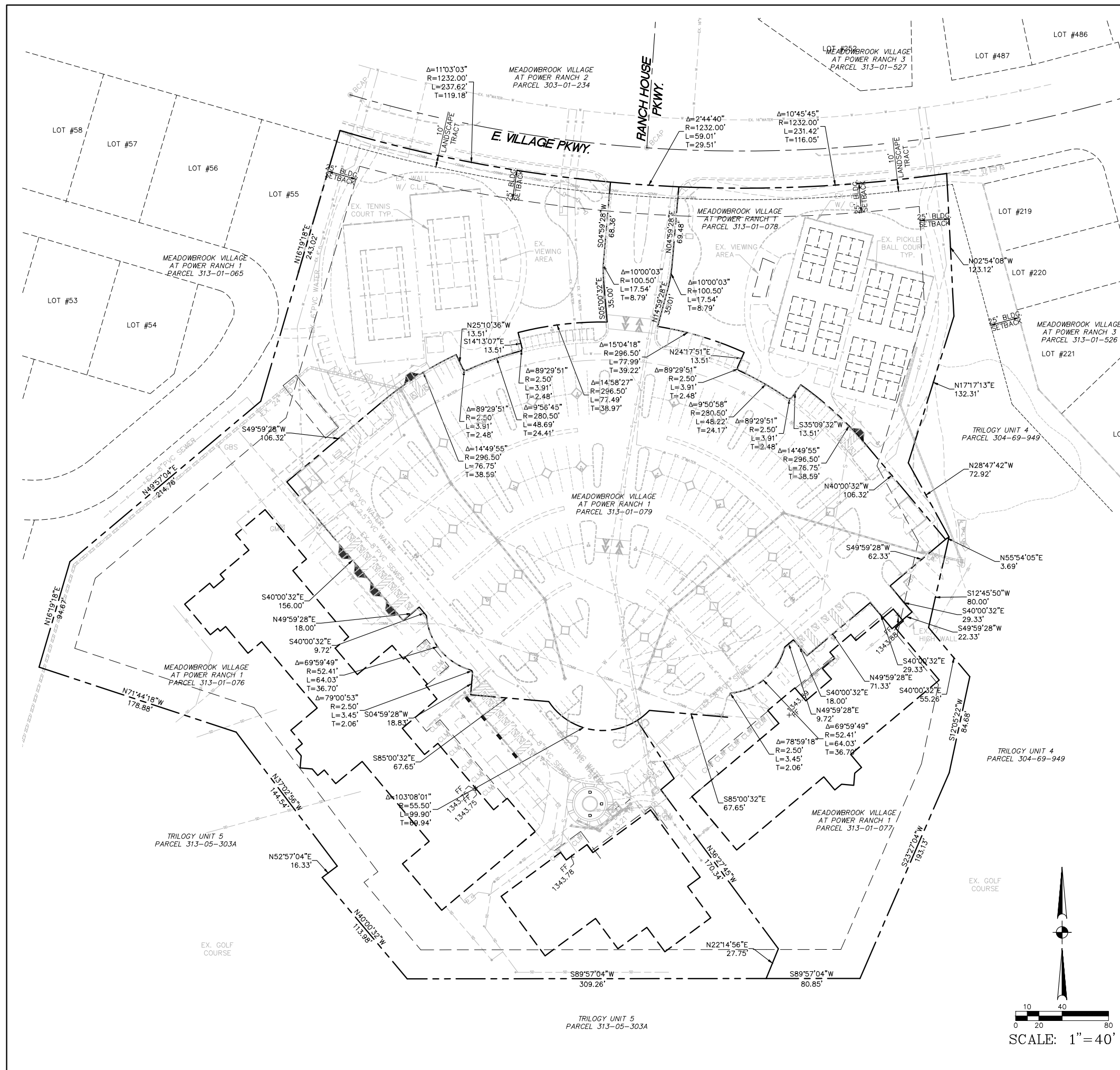
TRILOGY UNIT 5
PARCEL 313-05-303A



HESS - ROUNTREE, INC.
CONSULTING ENGINEERS & LAND SURVEYORS
9831 SOUTH 51ST STREET, SUITE C110
PHOENIX, ARIZONA 85044 (480)496-0244

DES. **DRO** DRN. **ANM** CKD. **DRO** JOB NO. **1407-06C**

PRELIMINARY NOT
FOR CONSTRUCTION



EXISTING CONDITIONS PLAN EXHIBIT 4A

TRILOGY AT POWER RANCH			
TENNIS AND PICKLEBALL COURTS FOR TRILOGY AT POWER RANCH			
DRAWING STATUS	SHEET	OF	
	1	1	SP-2
DATE: 3/04/20			



140706CSP2.DWG

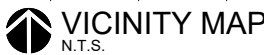
Trilogy at Power Ranch
Tennis and Pickleball Courts Improvements
4369 E. Village Parkway, Gilbert, Arizona 85298

Design Review Amendment Submittal

Z20-03, DR19-128: Trilogy at Power Ranch Pickleball
Attachment 5 - Landscape

PROJECT DESCRIPTION:

THE PROJECT INVOLVES RENOVATIONS TO EXISTING TENNIS AND PICKLEBALL COURTS AND NEW LANDSCAPE PER NEW LAYOUT. ALL LANDSCAPE IMPROVEMENTS ARE ON THE INTERIOR OR PRIVATE STREET ONLY AND NONE OF IT FRONTS A PUBLIC STREET.

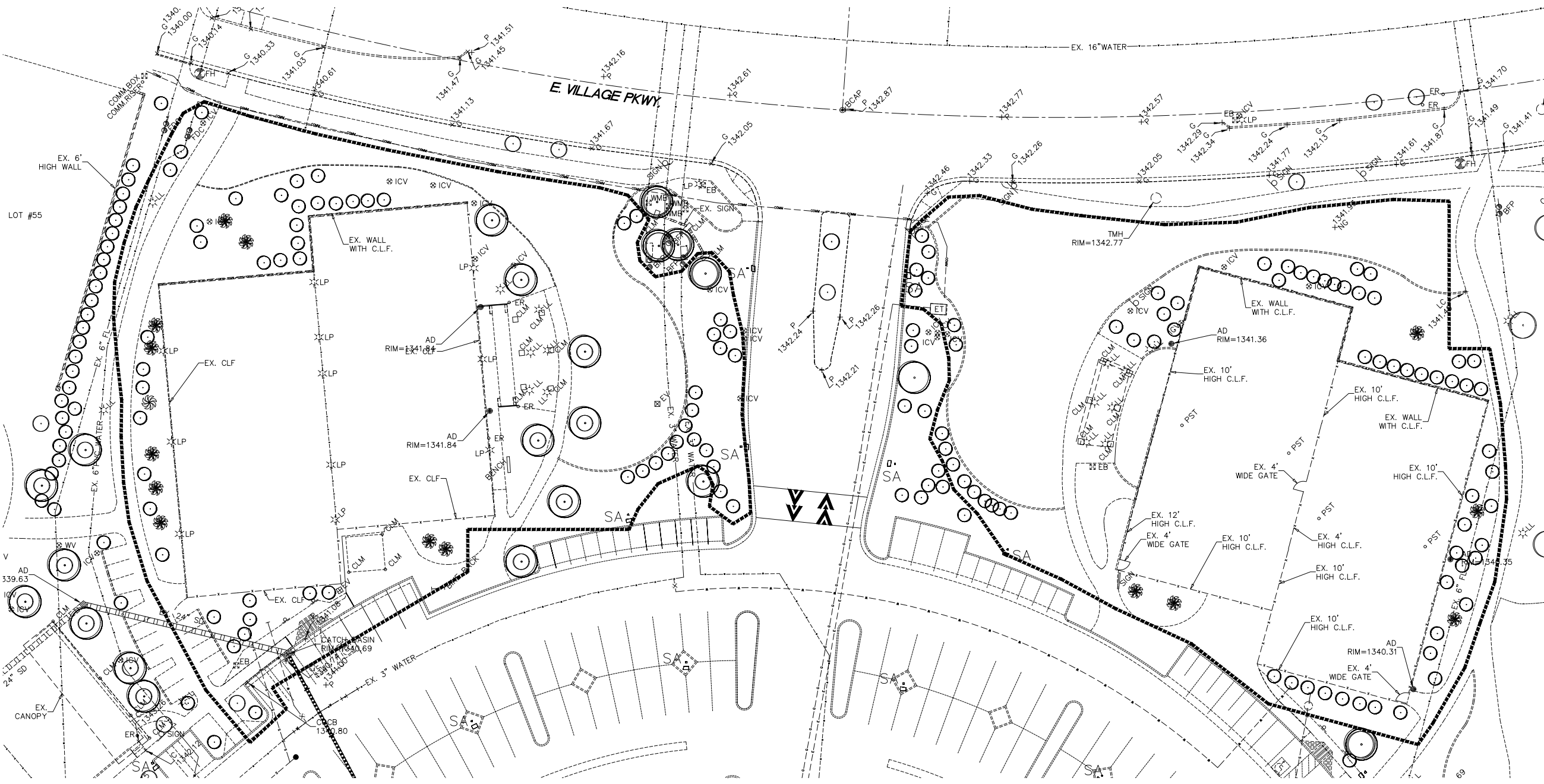


ARCORE
group, inc. planning landscape architecture

10201 s. 51st street, suite a-240, phoenix, az 85044
tel: 480-704-7555 fax: 480-704-7888

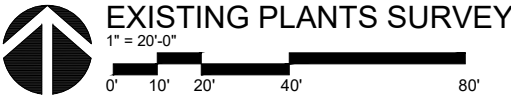
NOTICE: THE DESIGNS SHOWN AND DESCRIBED HEREIN INCLUDING ALL TECHNICAL DRAWINGS AND GRAPHICS, ARE PROPRIETARY AND CANNOT BE COPIED, DUPLICATED OR COMMERCIALY EXPLOITED, IN WHOLE OR IN PART WITHOUT EXPRESS WRITTEN PERMISSION OF THE ARCHITECT. THESE DOCUMENTS ARE AVAILABLE FOR LIMITED REVIEW AND EVALUATION BY CLIENTS. CONSULTANTS, CONTRACTORS, GOVERNMENT AGENCIES, Vendors AND OFFICE PERSONNEL ONLY IN ACCORDANCE WITH THIS NOTICE.

CONSULTANT:



PLANT REMOVAL COUNT:
EXISTING PLANTS SHOWN WITHIN THE DASHED LINE AREA ARE TO BE REMOVED. PLANTS OUTSIDE THIS AREA ARE TO REMAIN AND SHOWN ON LANDSCAPE PLANS.

TOTAL TREES TO BE REMOVED (EAST & WEST)	=	7
SMALL PALM TREES TO BE REMOVED(EAST & WEST SIDES)	=	13
SHRUBS TO BE REMOVED (EAST & WEST SIDE)	=	123
TOTAL TURF AREA TO BE REMOVED (EAST & WEST)	=	15,150SF



TRILOGY AT POWER RANCH
TENNIS AND PICKLEBALL COURTS
IMPROVEMENTS
4369 E. VILLAGE PARKWAY
GILBERT, AZ 85298

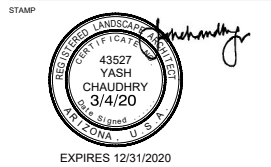
PROJECT NO: 2019-17
DATE: 03/04/2020
DRAWN BY: DP
CHECKED BY: YC

PROJECT PHASE: DESIGN REVIEW

REVISIONS		
NO.	REVISION	DATE

SHEET CONTENTS
EXISTING PLANTS
SURVEY

SHEET No:
L-001



TRIOLOGY AT POWER RANCH
TENNIS AND PICKLEBALL COURTS
IMPROVEMENTS
4369 E. VILLAGE PARKWAY
GILBERT, AZ 85298

PROJECT NO: 2019-17 DATE: 03/04/2020
DRAWN BY: DP CHECKED BY: YC

PROJECT PHASE: DESIGN REVIEW

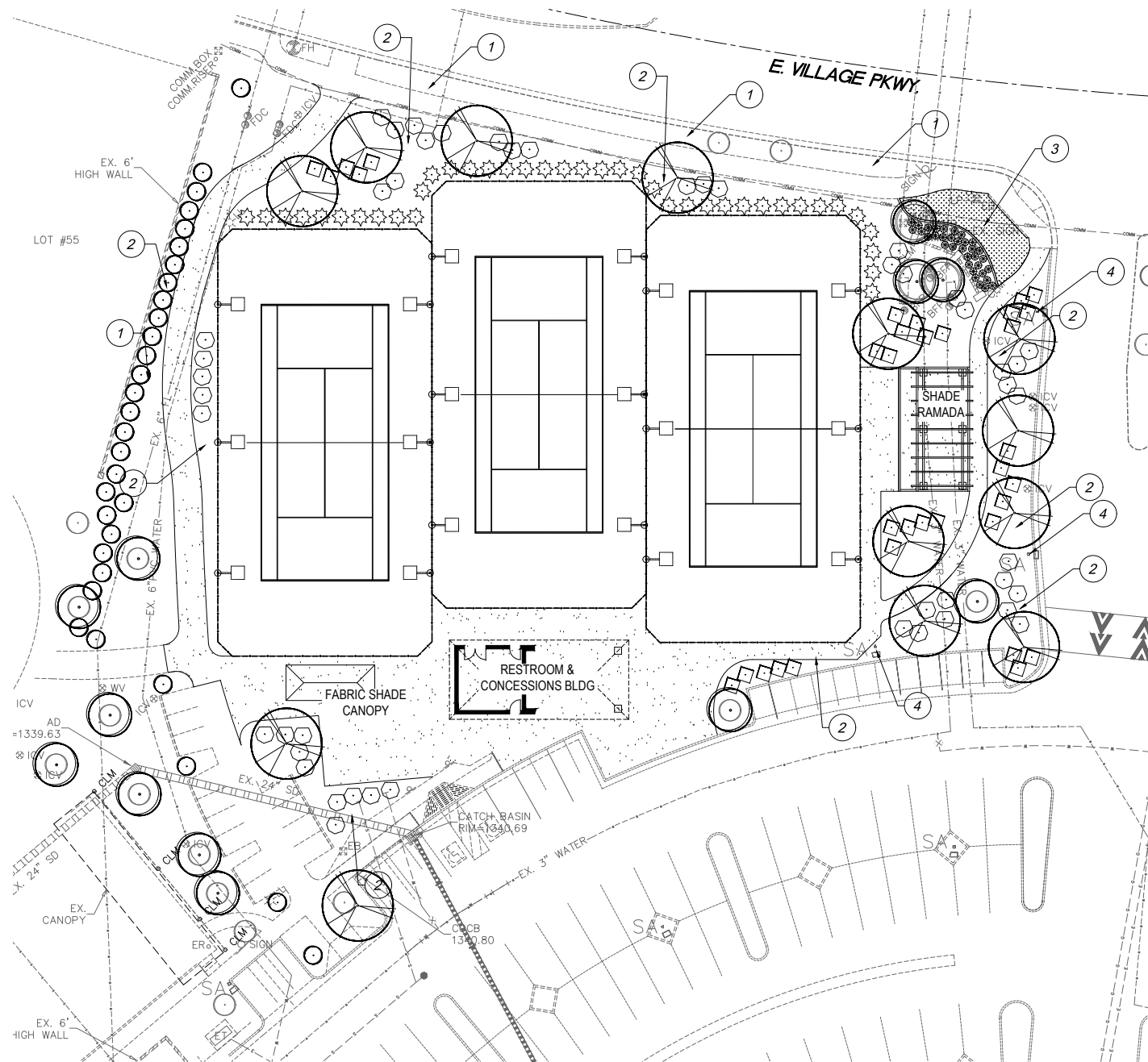
REVISIONS		
NO.	REVISION	DATE

SHEET CONTENTS
LANDSCAPE PLAN







SHEET No:

L-101

EXHIBIT 5



LANDSCAPE SCHEDULE:

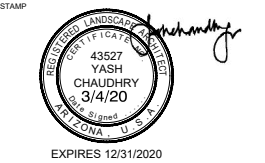
SYMBOL	SIZE	QTY	BOTANICAL NAME	COMMON NAME	NOTES
TREES:					
	24" BOX	24	PISTACIA CHINENSIS 'RED PUSH'	RED PUSH PISTACHE	101, SINGLE TRUNK
EXISTING TREES TO REMAIN. PROTECT DURING CONSTRUCTION.					
SHRUBS:					
	5 GALLON	88	TECOMA STANS V. AUGUSTATA	ARIZONA YELLOW BELLS	
	5 GALLON	93	CALLIANDRA HYBRID 'SIERRA STARR'	'SIERRA STARR' FAIRY DUSTER	
	5 GALLON	81	HESPERALOE PARVIFLORA	RED YUCCA	
	435SF		SEASONAL FLOWERS		
EXISTING SHRUBS TO REMAIN. PROTECT DURING CONSTRUCTION.					
GROUNDCOVER:					
	3/4" SCREEN	VIF	CRUSHED ROCK	D.G.	102, 103
800SF ARTIFICIAL TURF AT SHADED AREAS					

KEYNOTES: #

- EXISTING LANDSCAPE TO REMAIN
- 2" DEEP APPLICATION OF 3/4" SCREEN SIZE CRUSHED ROCK (PINK CORAL COLOR). - TYP. AT ALL PLANTERS INCLUDING LIGHT POLE PLANTERS
- ARTIFICIAL TURF AT SHADED AREA
- LIGHT POLES - TYP.

LANDSCAPE SCHEDULE NOTES:

- DOUBLE STAKE PER DETAIL OR GUY AS REQUIRED TO ENSURE UPRIGHT GROWTH. UPRIGHT GROWTH IS A CONDITION OF THE GUARANTEE. REMOVE SUPPORTS IF USED AS SOON AS PRACTICAL PER DISCRETION OF INSTALLER. NURSERY (TEMPORARY) STAKES TIED TIGHT TO TREE TRUNKS ARE NOT ACCEPTABLE AND MUST BE REMOVED PRIOR TO INITIATION OF GUARANTEE.
- TYPICAL 2" THICK UNIFORM APPLICATION TO EXTENT INDICATED. DEPRESS ROCK BED SO SURFACE IS 1-1/2" BELOW ADJACENT PAVING.
- APPLY PRE-EMERGENT WEED CONTROL IN TWO APPLICATIONS (ONE PRIOR TO PLACEMENT OF ROCK GROUNDCOVER, ONE AFTER PLACEMENT) WHEREVER ROCK GROUNDCOVER IS USED.



TRIOLOGY AT POWER RANCH
TENNIS AND PICKLEBALL COURTS
IMPROVEMENTS
4369 E. VILLAGE PARKWAY
GILBERT, AZ 85298

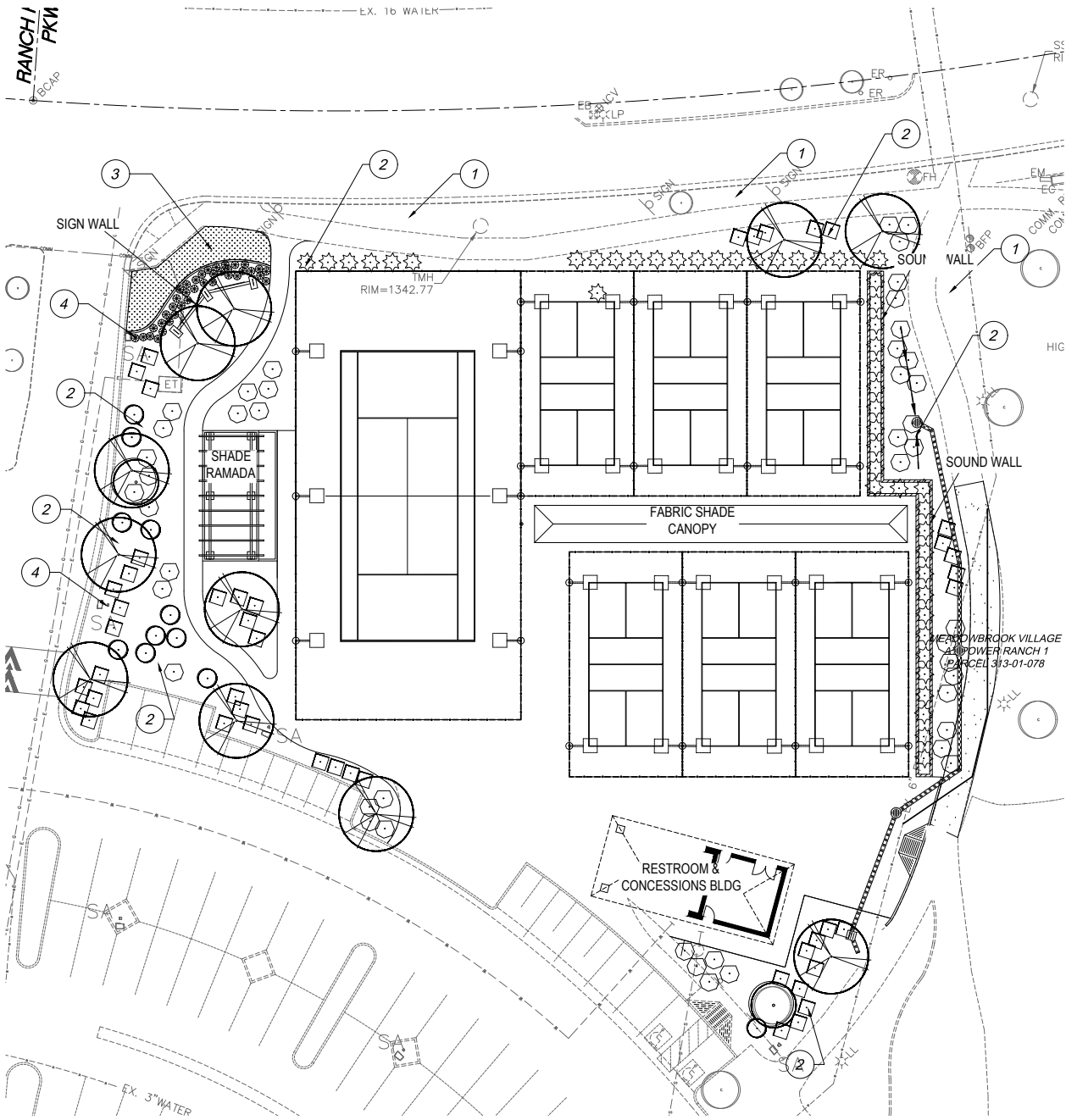
PROJECT NO: 2019-17 DATE: 03/04/2020
DRAWN BY: DP CHECKED BY: YC

PROJECT PHASE: DESIGN REVIEW

REVISIONS		
NO.	REVISION	DATE

SHEET CONTENTS
LANDSCAPE PLAN

SHEET No: L-102



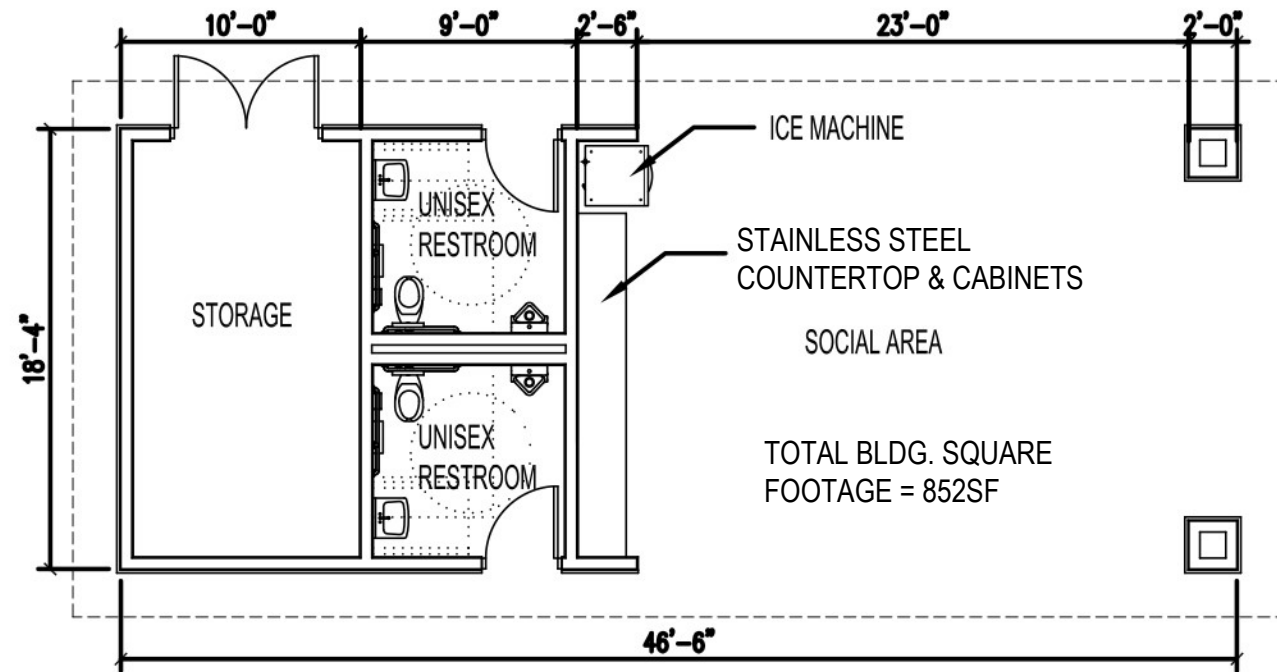
LANDSCAPE PLAN (EAST SIDE)
1" = 20'-0"
0' 10' 20' 40' 80'

ADDITIONAL LANDSCAPE NOTES:

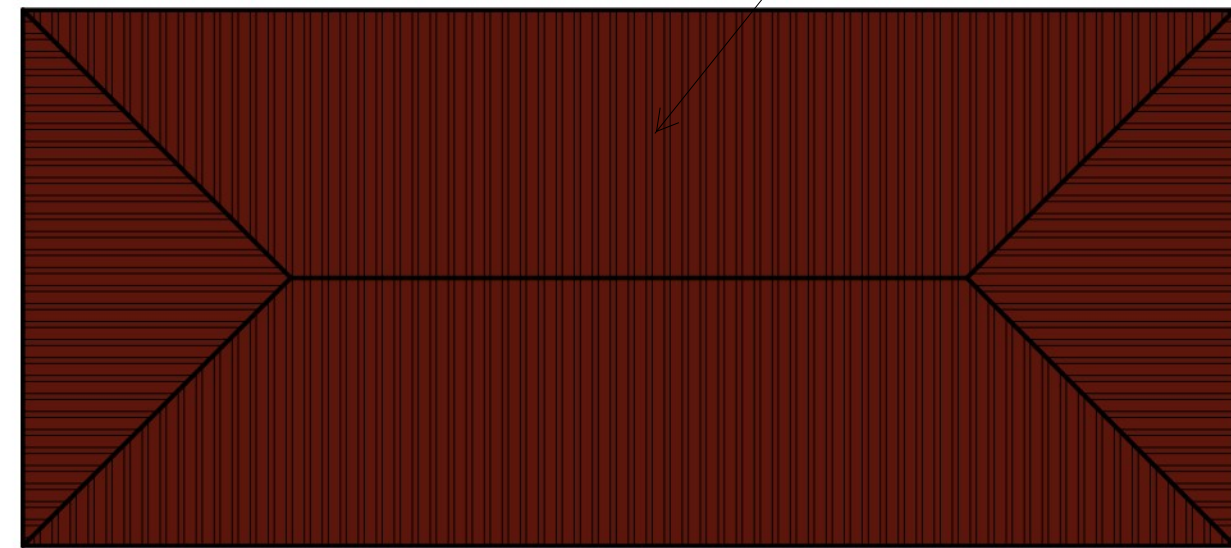
1. A TOWN OF GILBERT PERMIT IS REQUIRED FOR THE INSTALLATION OF ANY LANDSCAPE OR IRRIGATION SYSTEM. A CD WITH PDF FORMAT "AS-BUILTS" OF THE LANDSCAPE AND IRRIGATION PLANS ALSO REQUIRED.
2. BEFORE THE TOWN OF GILBERT WILL ACCEPT AN INSTALLED BACKFLOW DEVICE FOR APPROVAL, THE FOLLOWING MUST BE ACCOMPLISHED: THE DEVICE MUST BE TESTED BY A STATE CERTIFIED BACKFLOW TESTER AND THE TEST RESULTS FORWARDED TO THE TOWN OF GILBERT BACKFLOW SPECIALIST. THE TOWN WILL PROVIDE A CURRENT LIST OF CERTIFIED TESTERS FROM WHICH TO SELECT. TESTER FEES WILL BE AT THE EXPENSE OF THE INSTALLER.
3. DESIGN OF ANY WALLS, ENTRY MONUMENT SIGNAGE OR RAMADAS THAT MAY BE PRESENTED HEREIN HAVE BEEN REVIEWED AS CONCEPTUAL ONLY AND WILL REQUIRE A SEPARATE REVIEW AND PERMIT FROM THE BUILDING DEPARTMENT. IN NO CASE SHALL THE DEPICTED WALLS, ENTRY MONUMENT SIGNAGE OR RAMADAS BE CONSIDERED FINAL. APPROVAL BY THE PLANNING DEPARTMENT IS REQUIRED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT FOR SAID WALLS, ENTRY MONUMENTS AND RAMADAS.
4. NO PLANT MATERIAL SHALL COME WITHIN 3 FEET OF FIRE HYDRANTS OR ANY FIRE DEPARTMENT EQUIPMENT.
5. NO PLANTING OR OBJECTS WITHIN THE TOWN OF GILBERT SIGHT VISIBILITY TRIANGLES SHALL EXCEED 2 FEET. TREES SHALL HAVE A 7 FEET MINIMUM CLEAR CANOPY.
6. ALL TREES, SHRUBS AND GROUNDCOVER SHALL MEET OR EXCEED ARIZONA NURSERY ASSOCIATION (ANA) SPECIFICATIONS.
7. CONSTRUCTION MAY BEGIN AFTER ALL PERMITS HAVE BEEN OBTAINED.
8. FINAL CERTIFICATE OF OCCUPANCY CANNOT BE OBTAINED UNTIL BONDING OR APPROVED ASSURANCES IS PROVIDED FOR THE LANDSCAPING WITHIN THE RIGHT-OF-WAY.
9. NO PLANT SUBSTITUTIONS, TYPE, SIZE OR QUANTITY DEVIATIONS FROM THE APPROVED LANDSCAPE OR IRRIGATION PLANS WITHOUT PRIOR APPROVAL FROM THE TOWN OF GILBERT.
10. ALL RIGHT-OF-WAY AND CITY REQUIRED (PERIMETER, RETENTION, AND PARKING) PLANT MATERIAL TO BE IN COMPLIANCE WITH THE DEPARTMENT OF WATER RESOURCES LOW WATER USE PLANT LIST.
11. VERIFY OWNERSHIP OF ANY PLANT MATERIAL OR IRRIGATION LOCATED IN PUBLIC RIGHT-OF-WAY. OBTAIN REQUIRED PERMISSION, IN WRITING, PRIOR TO REMOVAL OF ANY CITY PLANT MATERIAL OR EQUIPMENT.
12. ALL EXISTING TREES, CACTI AND SHRUBS IN RIGHT-OF-WAY DESIGNATED TO REMAIN BUT ARE DAMAGED OR DESTROYED WILL BE REPLACED IN LIKE SIZE AND KIND BY THE CONTRACTOR.
13. ALL ON-SITE ACCESSIBLE SIDEWALKS SHALL BE A MINIMUM OF 3 FEET 0 INCHES WIDE AND HAVE A MAXIMUM SLOPE OF 1:20 WITH THE MAXIMUM CROSS SLOPE OF 1:50. ALL CURBS MUST PROVIDE ACCESSABLE RAMPS PERSUANT TO THE AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS.
14. TREES ADJACENT TO PEDESTRIAN WALKWAYS SHOULD HAVE A MINIMUM CANOPY CLEARANCE OF 6'-8".
15. USE PVC LATERALS WITH A MAXIMUM OF 5' OF POLY TUBING OFF OF PVC. NO POLY LATERALS WILL BE ACCEPTED.
16. PLANT QUANTITIES AND CALIPER SIZES PROVIDED ON THE APPROVED PLAN AND IN THE LEGEND ARE REQUIRED TO BE INSTALLED IN THE FIELD.

MAINTENANCE NOTE:
ALL LANDSCAPE AREAS AND MATERIALS SHALL BE MAINTAINED IN A HEALTHY, NEAT, CLEAN AND WEED FREE CONDITION. THIS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.

CONSTRUCTION AND INSTALLATION SHALL BE IN ACCORDANCE WITH THESE PLANS AND ANY DEVIATIONS WILL REQUIRE REAPPROVAL. LANDSCAPE INSTALLATIONS SHALL BE APPROVED BY THE TOWN OF GILBERT INSPECTION SERVICES BEFORE A CERTIFICATE OF OCCUPANCY CAN BE ISSUED.



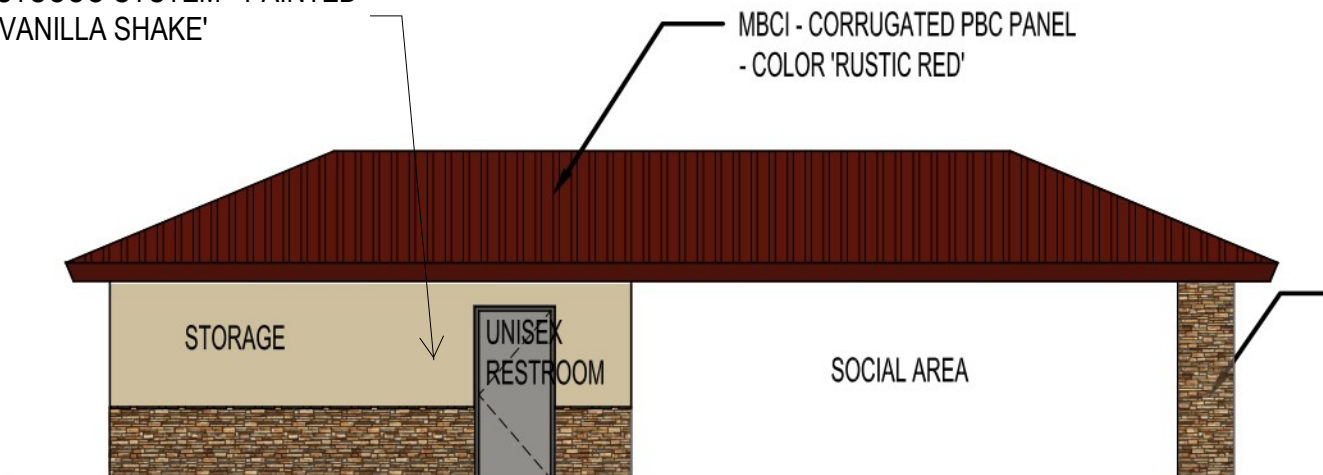
① RESTROOM AND CONCESSIONS BLDG - FLOOR PLAN
1/8" = 1'-0"



② RESTROOM AND CONCESSIONS BLDG - ROOF PLAN
1/8" = 1'-0"

3 COAT STUCCO SYSTEM - PAINTED
COLOR 'VANILLA SHAKE'

MBCI - CORRUGATED PBC PANEL
- COLOR 'RUSTIC RED'

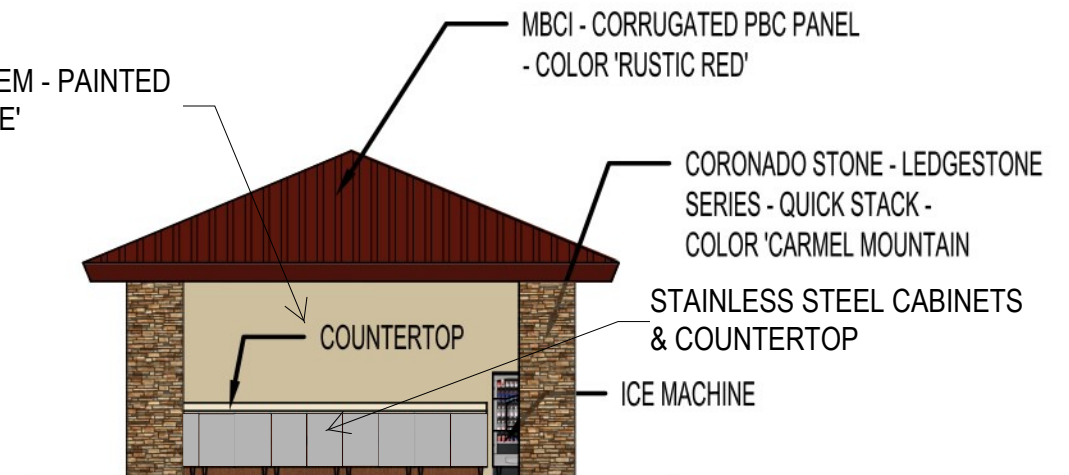


③ RESTROOM AND CONCESSIONS BLDG - ELEVATION
1/8" = 1'-0"

3 COAT STUCCO SYSTEM - PAINTED
COLOR 'VANILLA SHAKE'

MBCI - CORRUGATED PBC PANEL
- COLOR 'RUSTIC RED'

CORONADO STONE - LEDGESTONE
SERIES - QUICK STACK -
COLOR 'CARMEL MOUNTAIN'



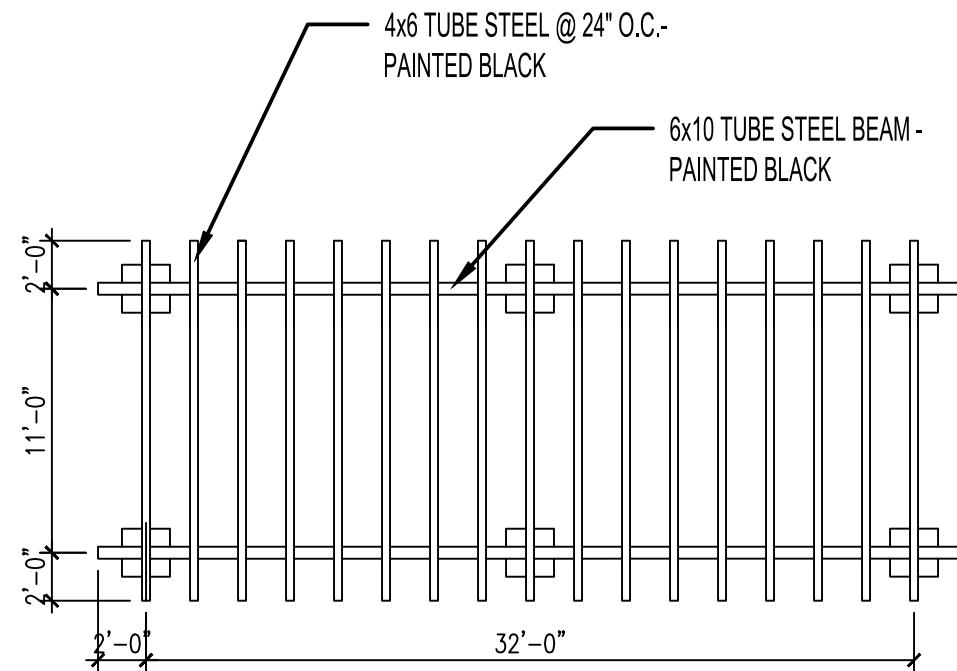
④ RESTROOM AND CONCESSIONS BLDG - ELEVATION
1/8" = 1'-0"

CORONADO STONE - LEDGESTONE
SERIES - QUICK STACK -
COLOR 'CARMEL MOUNTAIN'

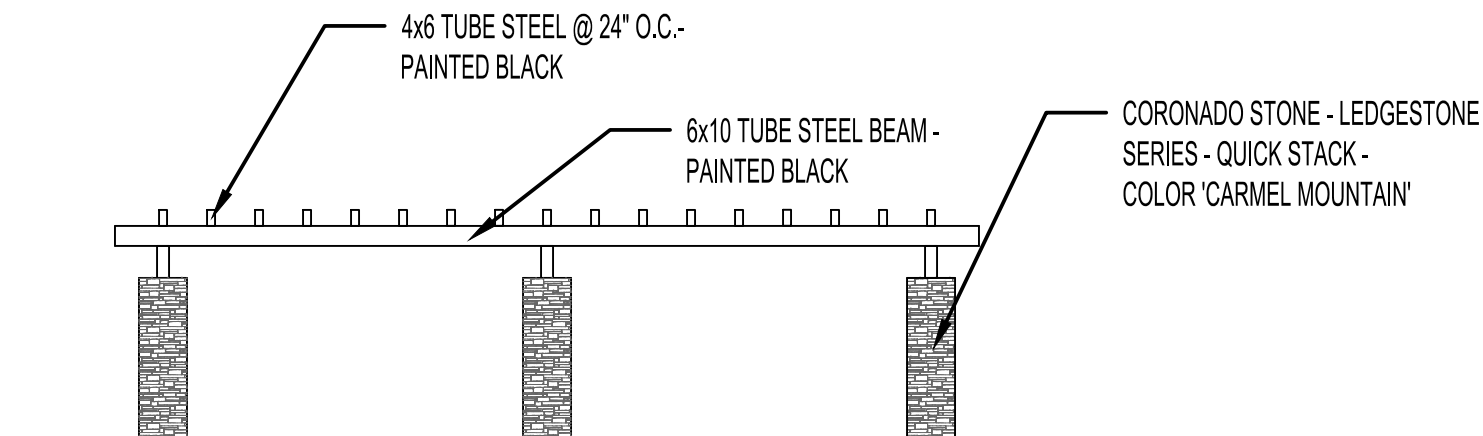


STAINLESS STEEL CABINETS &
COUNTERTOP (SIMILAR)

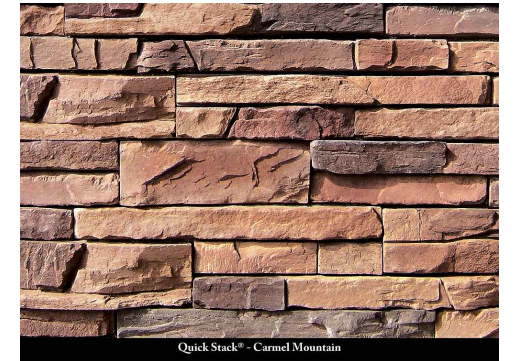
EXHIBIT 8



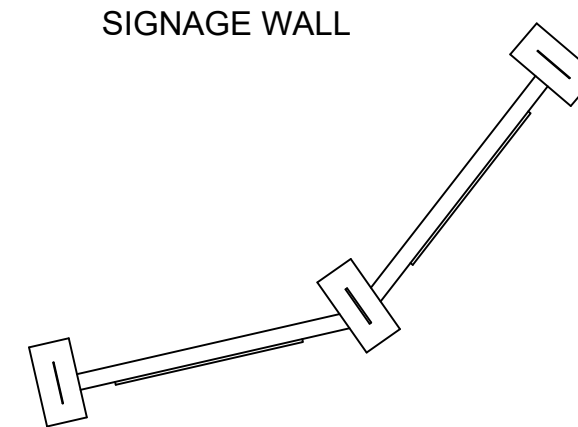
① SHADE RAMADA (ON EAST & WEST SIDES) - FLOOR PLAN
1/8" = 1'-0"



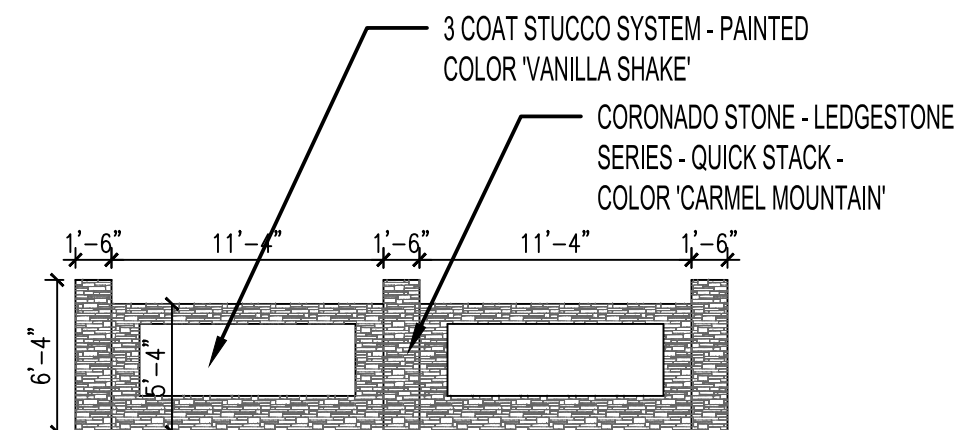
② SHADE RAMADA (ON EAST & WEST SIDES) - ELEVATION
1/8" = 1'-0"



CORONADO STONE
LEDGESTONE - QUICK STACK
COLOR - CARMEL MOUNTAIN



③ SIGNAGE WALL - PLAN
1/8" = 1'-0"



③ SIGNAGE WALL - ELEVATION (STRAIGHTENED)
1/8" = 1'-0"

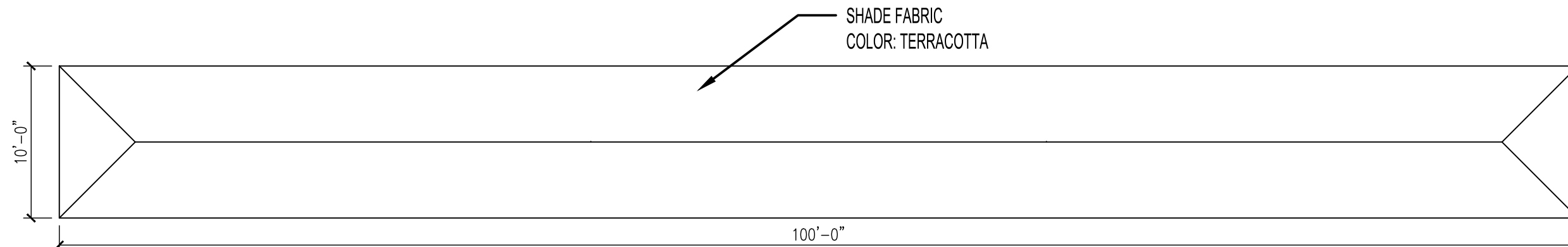
EXHIBIT 8.1



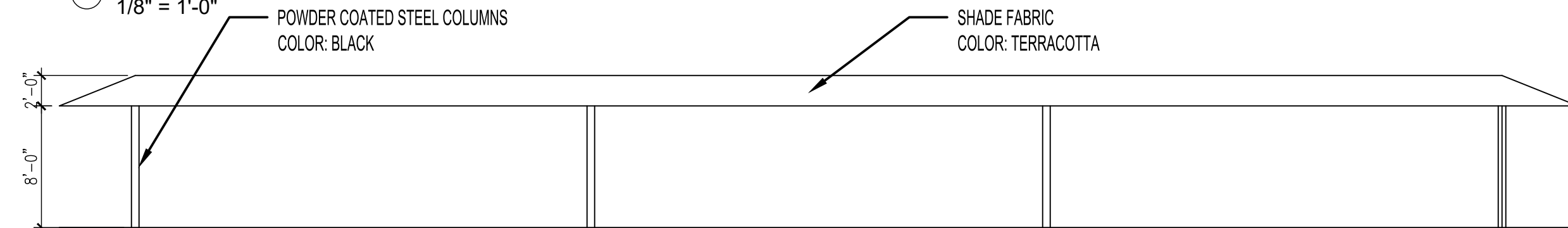
TRILOGY AT POWER RANCH TENNIS / PICKLEBALL COURTS IMPROVEMENTS

Hess-Rountree, Inc
Consulting Engineers & Land Surveyors
03-04-2020

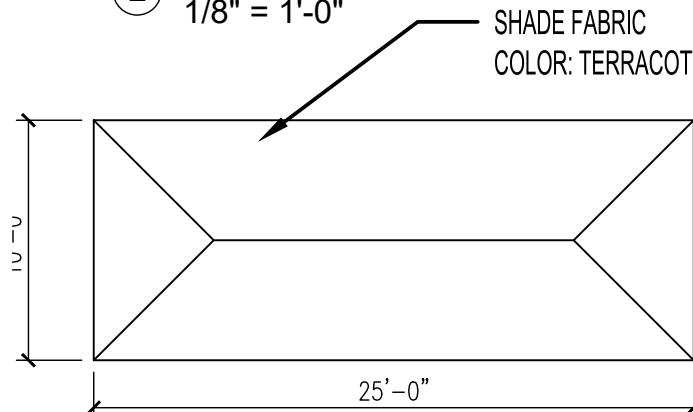




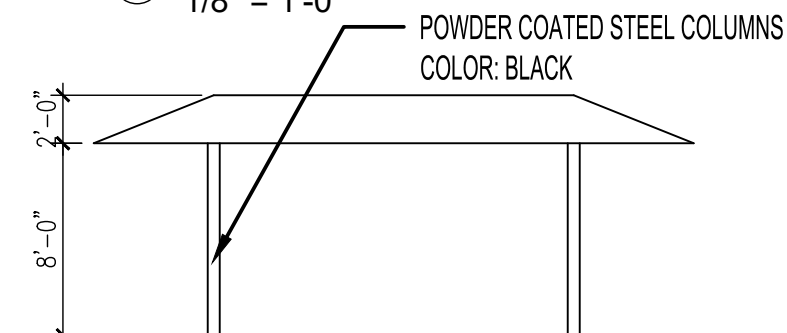
① FABRIC SHADE CANOPY (EAST SIDE) - PLAN
1/8" = 1'-0"



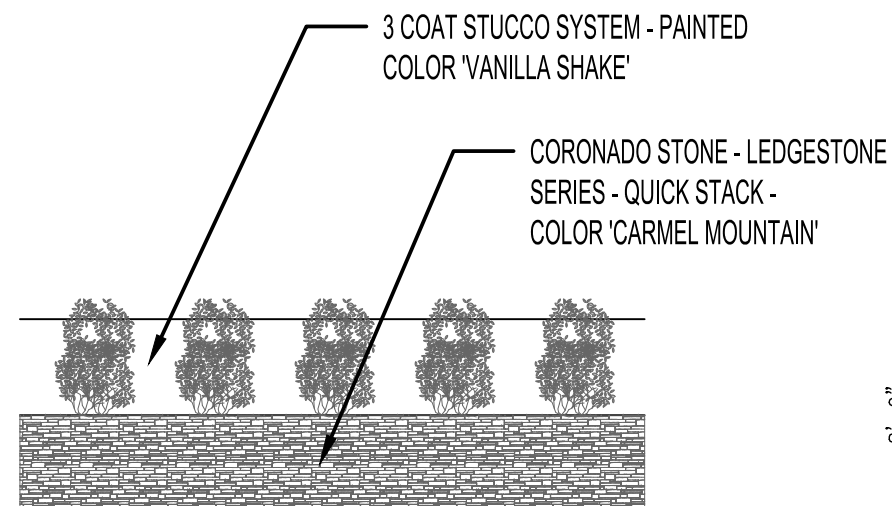
② FABRIC SHADE CANOPY (EAST SIDE) - ELEVATION
1/8" = 1'-0"



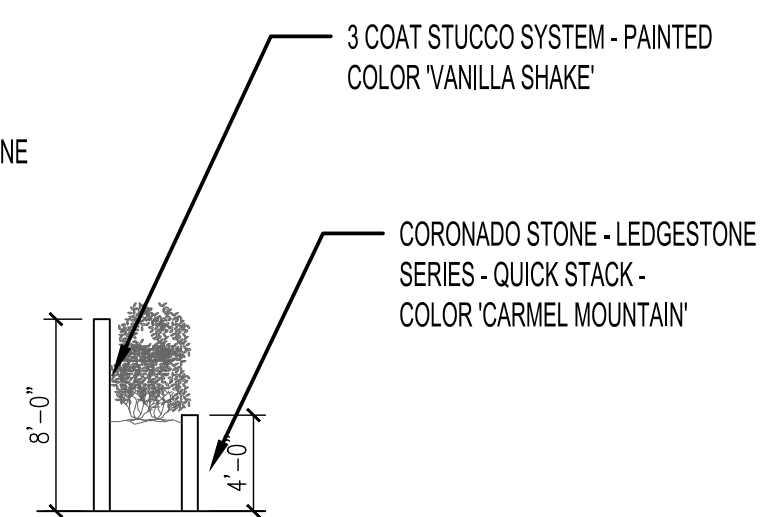
③ FABRIC SHADE CANOPY (WEST SIDE) - PLAN
1/8" = 1'-0"



④ FABRIC SHADE CANOPY (WEST SIDE) - ELEVATION
1/8" = 1'-0"



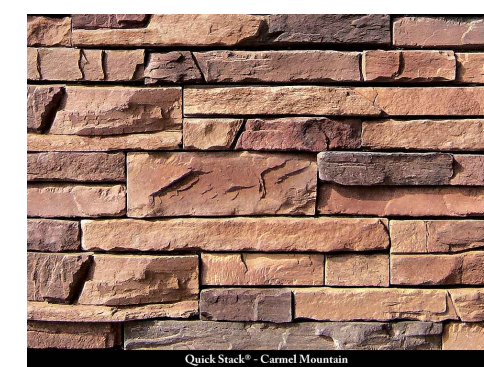
⑤ SOUND WALL - ELEVATION
1/8" = 1'-0"



⑥ SOUND WALL - SECTION
1/8" = 1'-0"



FABRIC SHADE CANOPY
FABRIC COLOR - TERRACOTTA



CORONADO STONE
LEDGESTONE - QUICK STACK
COLOR - CARMEL MOUNTAIN

EXHIBIT 8.2



TRILOGY AT POWER RANCH TENNIS / PICKLEBALL COURTS IMPROVEMENTS

Hess-Rountree, Inc
Consulting Engineers & Land Surveyors
03-04-2020

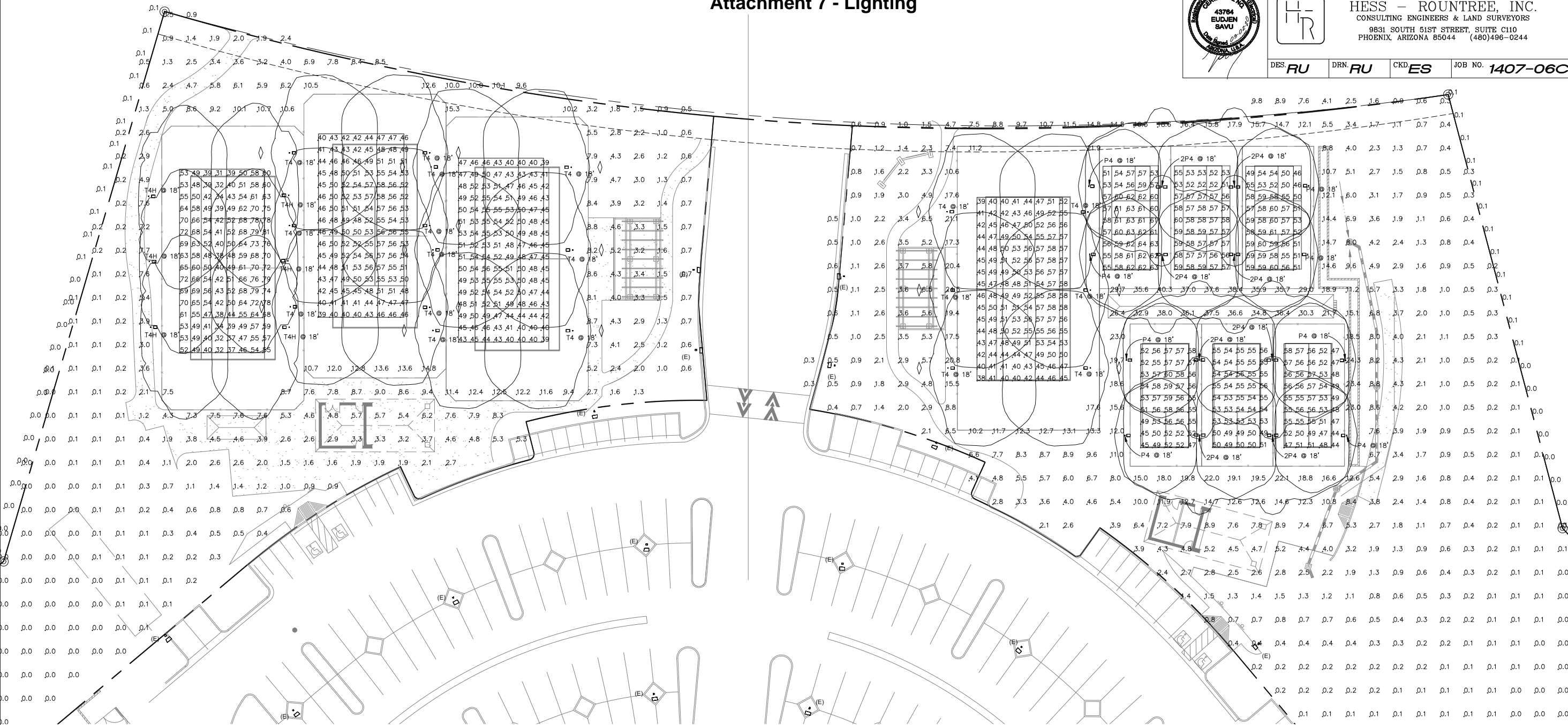


Z20-03, DR19-128: Trilogy at Power Ranch Pickleball
Attachment 7 - Lighting



HESS - ROUNTREE, INC.
CONSULTING ENGINEERS & LAND SURVEYORS
9831 SOUTH 51ST STREET, SUITE C110
PHOENIX, ARIZONA 85044 (480)496-0244

DES: **RU** DRN: **RU** CKD: **ES** JOB NO. **1407-06C**



Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
EAST SITE	+	4.9 fc	40.3 fc	0.0 fc	N/A	N/A
PCourts#1	+	59 fc	64 fc	51 fc	1.3:1	1.2:1
PCourts#2	+	56 fc	60 fc	51 fc	1.2:1	1.1:1
PCourts#3	+	56 fc	61 fc	46 fc	1.3:1	1.2:1
PCourts#4	+	54 fc	60 fc	45 fc	1.3:1	1.2:1
PCourts#5	+	53 fc	56 fc	49 fc	1.1:1	1.1:1
PCourts#6	+	53 fc	58 fc	44 fc	1.3:1	1.2:1
PROPERTY LINE	+	0.0 fc	0.1 fc	0.0 fc	N/A	N/A
TCourt#01	+	56 fc	81 fc	31 fc	2.6:1	1.8:1
TCourt#02	+	49 fc	58 fc	39 fc	1.5:1	1.3:1
TCourt#03	+	48 fc	56 fc	39 fc	1.4:1	1.2:1
TCourt#04	+	49 fc	58 fc	38 fc	1.5:1	1.3:1
WEST SITE	+	2.5 fc	15.3 fc	0.0 fc	N/A	N/A

Schedule

Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens per Lamp	Lumen Multiplier	LLF	Wattage	Efficiency	Distribution
□	P4	8	Lithonia Lighting	DSX2 LED P4 30K T4M MVOLT HS	DSX2 LED P4 30K T4M MVOLT with houseside shield	LED	1	DSX2_LED_P4_30K_T4M_MVOLT_HS.Ties	23545	1	0.95	270	100%	TYPE III, SHORT, BUG RATING: B3 - U0 - G4
□ □	2P4	8	Lithonia Lighting	DSX2 LED P4 30K T4M MVOLT	DSX2 LED P4 30K T4M MVOLT	LED	1	DSX2_LED_P4_30K_T4M_MVOLT.Ties	30338	1	0.95	540	100%	TYPE IV, SHORT, BUG RATING: B3 - U0 - G5
□ •	T4H	6	Lithonia Lighting	DSX2 LED P8 30K BLC MVOLT	DSX2 LED P8 30K BLC MVOLT	LED	1	DSX2_LED_P8_30K_BLC_MVOLT.Ties	37432	1	0.95	431	100%	TYPE III, SHORT, BUG RATING: B3 - U0 - G5
□ •	T4	18	Lithonia Lighting	DSX2 LED P8 30K T4M MVOLT	DSX2 LED P8 30K T4M MVOLT	LED	1	DSX2_LED_P8_30K_T4M_MVOLT.Ties	44691	1	0.95	431	100%	TYPE IV, SHORT, BUG RATING: B4 - U0 - G5



SITE PHOTOMETRIC PLAN

SCALE: 1" = 20'-0"

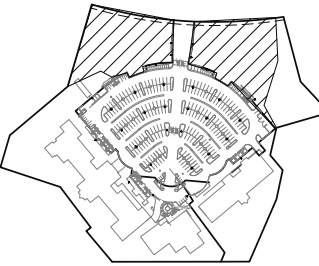


ARIZONA PINNACLE ENGINEERING, LLC
Mechanical & Electrical Consulting Engineers
2222 W. Pinnacle Peak Road, Suite 290
Phoenix, AZ 85027
Phone: (623) 594-9049



SITE PHOTOMETRIC PLAN

TRILOGY AT POWER RANCH			
TENNIS AND PICKLEBALL COURTS FOR TRILOGY AT POWER RANCH			
DRAWING STATUS	SHEET	OF	
DATE:	4/12/19		



KEY PLAN

NO SCALE

Trilogy at Power Ranch

Pre-Application PAD Amendment

4369 East Village Parkway, Gilbert, AZ

Project Narrative

A. Request

This pre-application includes a Planned Area Development (PAD) amendment to adjust the setbacks for the recreational sport courts located along Village Parkway within Trilogy at Power Ranch.

B. Project Background

The Power Ranch PAD was initially approved in July 1997 and subsequently amended four times, the most recent being January 2003. Trilogy at Power Ranch was approved as an age restricted community within Power Ranch, which allows both residential and recreational uses.

C. Pickleball Popularity

Trilogy currently has four (4) courts at the entrance to its recreational amenity and clubhouse area. In 2012, residents of Trilogy formed a Pickleball Club and pickleball and tennis have jointly used the courts for the last 8 years. Currently, pickleball is permitted and is already being played on the eastern courts, which allows up to 32 pickleball players at a time.



D. Sport Court Proposal

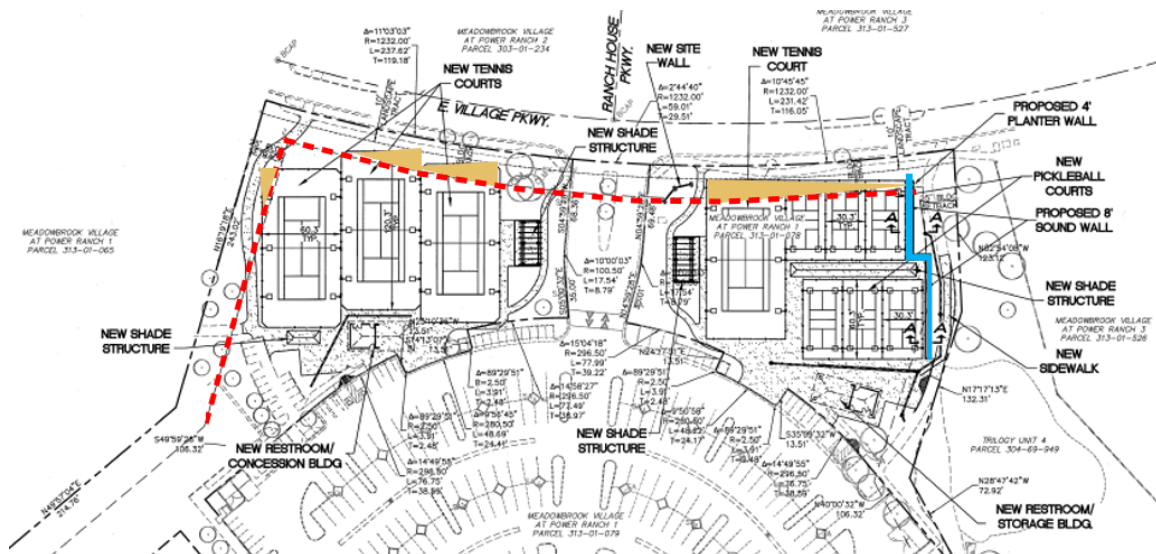
The two new sport courts will be added to the existing open space at the entrance (indicated in yellow on the exhibit below). The other existing courts will be reconfigured to maintain the same number of courts (4) as before. Additionally, pickleball will still be played on the eastern courts as it is currently enjoyed today. Shaded viewing areas, bathroom facilities, and social areas will also be included in the redesigned area.



E. PAD Amendment

In order to accommodate the two additional sport courts, a reduction in the setback is required. While the PAD requires a 25' building setback from the property line, this PAD amendment requests a 10' setback from the court fence to the property line.

To be clear, no setback reduction is proposed along the eastern side where pickleball is currently being played today, and where it will still continue to be played after re-construction. The required 25-foot setback will continue to be maintained along the eastern side. The setback reduction will only apply to the northern side, which is adjacent to Village Parkway, as well as a small area on the northwest corner as illustrated in orange on the exhibit below. As the exhibit below shows, most of the 25-foot setback is still observed, except for some portions of the court fence that will be at 10 feet. By reducing the setback on the north side, Trilogy is able to fit the new courts within the required dimensional elements, walkways, plazas and parking.



The addition of the sport courts will provide a benefit to the residents surging need for more tennis and pickleball courts, thereby expanding recreational activities for the community.

The current sport courts are beyond capacity today and players fight for court time. At the same time, demand for pickleball has skyrocketed. The addition of two more courts will meet the needs of tennis and the growing pickleball community, without requiring any new space for development. The proposed restroom and ramada will also encourage socialization both on and off the courts.

Due to the size of the sport court area and standard court sizes required, the encroachment into the setback near the street is needed. Otherwise, the courts would have to be shifted southward, causing a loss of parking, and in violation of the approved AUP for modified parking (AUP16-13).

F. Conclusion

The PAD amendment facilitates the addition of two new courts while allowing the same use of the existing four courts, thereby addressing the growing demand within the community. The PAD does not reduce the required eastern setback boundaries. Furthermore, the eastern courts are already being used today for pickleball and will continue to be used hereafter. This proposal simply solves a problem with user demand and court time. Pickleball is a popular sport with significant demand in Trilogy at Power Ranch. Finding a way to preserve courts for tennis while meeting the surging demand for pickleball is successfully achieved through this endeavor.

June 12, 2019

Mr. Ian Welsh
Trilogy at Power Ranch
4369 E Village Parkway
Gilbert, AZ 85298

Subject: Trilogy at Power Ranch Pickleball Court – Noise Impact Assessment – Town of Gilbert, AZ

Dear Mr. Welsh:

MD Acoustics (MD) has completed a noise impact assessment and abatement recommendations study for the Trilogy at Power Ranch located at 4369 E. Village Pkwy, in the Town of Gilbert, AZ. The project site consists of four (4) pickleball courts that are located within the vicinity of adjacent residences. The project was assessed with regard to the existing noise levels during pickleball activities, a review of the proposed layout, and future noise levels with and without noise abatement.

1.0 Assessment Overview

MD visited the project site on 5/22/2019 and conducted ambient noise measurements to quantify the existing noise levels during non-pickleball and pickleball activities. The data collected was utilized to develop an acoustic model and generate noise contours that illustrate how noise propagates from the site for both existing and future scenarios. The project location map is located in Exhibit A. The site plan utilized for the project is indicated in Exhibit B. A glossary of Acoustical Terms is located in Appendix A.

2.0 Acoustic Objective

The purpose of this assessment is to provide recommendations that will lower the noise impact and yield an audible difference associated with the pickleball court activity after installation (Project). Table 1 provides the characteristics associated with changes in noise levels.

Table 1: Change in Noise Level Characteristics¹

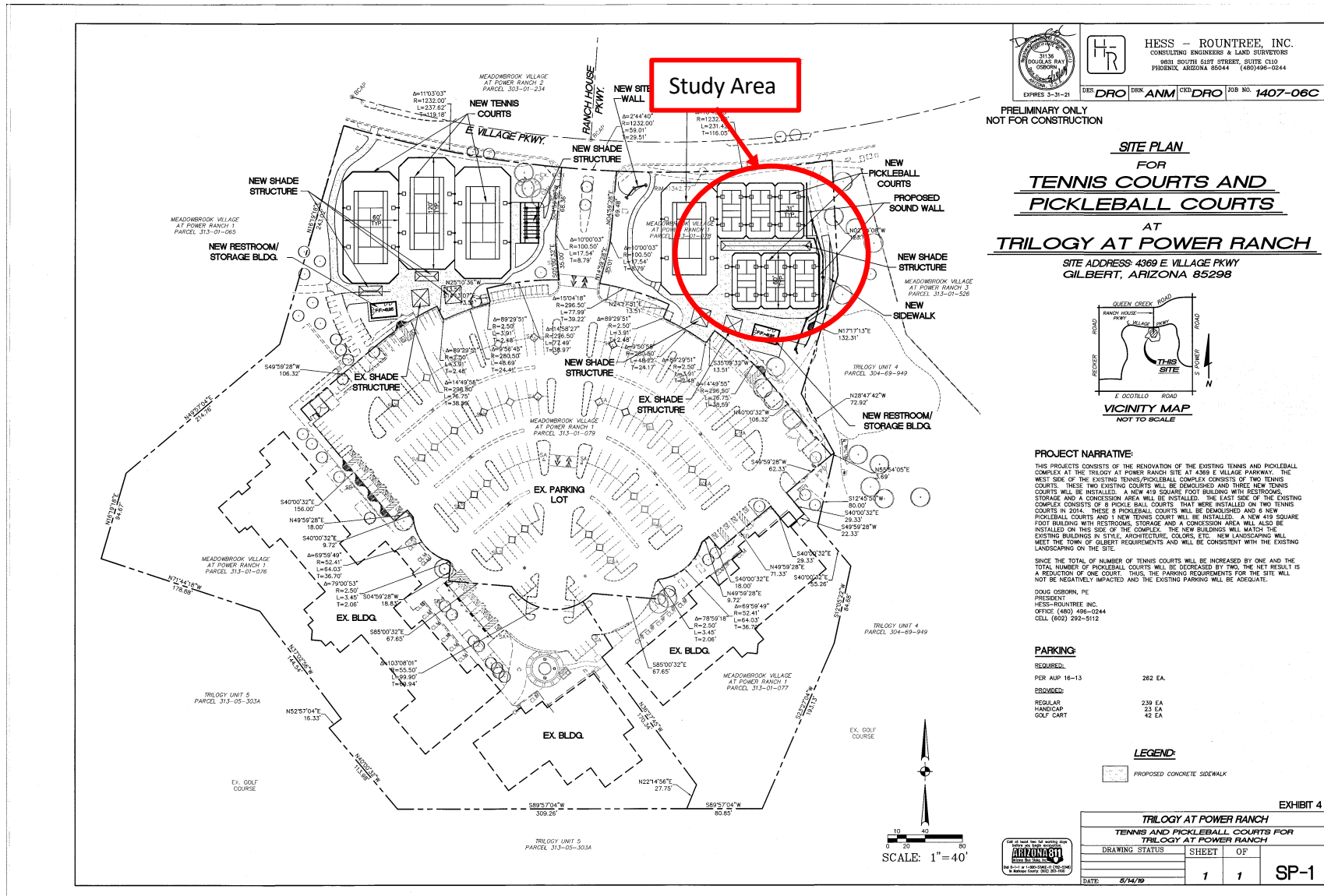
Changes in Intensity Level, dBA	Changes in Apparent Loudness
1	Not perceptible
3	Just perceptible
5	Clearly noticeable
10	Twice (or half) as loud

https://www.fhwa.dot.gov/environMent/noise/regulations_and_guidance/polguide/polguide02.cfm

Therefore, at minimum MD will provide recommendations that will yield a minimum 3 dBA difference between an unmitigated scenario and a mitigated scenario (no wall vs wall).

Exhibit A
Location Map





3.0 Local Acoustical Ordinance

The Town of Gilbert has outlined their policies as it relates to noise within the Gilbert municipal code. Section 42-61.(e)(1) outlines the acoustical requirements for the project site and is outlined below:

It is unlawful for any person to create any noise which would cause the noise level measured from the inside, with the windows and doors closed, of a complainant's residential dwelling, enclosed commercial building or suite, or enclosed industrial building or suite to exceed the following community noise standards for more than 15 minutes in duration and more than two times in one hour.

The Gilbert municipal code cited above states a specific not-to-exceed noise level criterion for residential zones. The daytime (5 a.m.-10 p.m.) noise limits for residential uses may not exceed 55 dBA at the residential property line.

4.0 Study Method and Procedure

Noise Measurement Procedure and Criteria

Noise measurements were taken to determine the existing noise levels. A noise receiver or receptor is any location in the noise analysis in which noise might produce an impact. The following criteria are used to select measurement locations and receptors:

- Locations expected to receive the highest noise impacts, such as first row of houses
- Locations that are acoustically representative and equivalent of the area of concern
- Human land usage
- Sites clear of major obstruction and contamination

MD conducted the sound level measurements in accordance to the FHWA technical noise specifications. All measurements equipment meets American National Standards Institute (ANSI) specifications for sound level meters (S1.4-1983 identified in Chapter 19.68.020.AA). The following gives a brief description of the FHWA Traffic Noise Manual procedures for sound level measurements:

- Microphones for sound level meters were placed 5-feet above the ground for all measurements
- Sound level meters were calibrated (Larson Davis CAL 200) before and after each measurement
- Following the calibration of equipment, a wind screen was placed over the microphone
- Frequency weighting was set on "A" and slow response
- Results of the noise measurements were recorded on field data sheets
- During any short-term noise measurements any noise contaminations such as barking dogs, local traffic, lawn mowers, or aircraft fly-overs were noted
- Temperature and sky conditions were observed and documented

Short-Term Noise Measurement Location

Noise monitoring locations were selected based on the relative location of sensitive receptors from the project site/pickleball courts. Baseline measurements were conducted at one (1) location.

SoundPLAN Acoustic Model

SoundPLAN (SP) acoustical modeling software was utilized to model both the existing and future mitigated operational noise levels from the project site. SP acoustical modeling software is capable of evaluating stationary noise sources and much more. SPE's software utilizes algorithms (based on inverse square law) to calculate noise level projections. The software allows the user to input specific noise sources, spectral

content, sound barriers, building placement, topography, and sensitive receptor locations. In addition, SP can model the noise sources as point sources, line sources and area sources. Noise level input and output data is located in Appendix B.

MD modeled the noise level using the reference noise level data performed at the pickleball courts. the noise level reached 70 dBA Leq (average level) and 83 dBA Lmax (peak value) at 6 feet from the source (from pickleball players on one court). The model is capable of modeling several courts simultaneously.

Two (2) scenarios were modeled for this assessment. Scenario 1 evaluates the existing condition and is used to calibrate the acoustic model for the baseline condition. Exhibits D and E provides the noise level map and the noise contour map.

Scenario 2 evaluates the future condition based on the noise abatement recommendations and provides two (2) acoustically modeled situations. Situation 1 is the future condition with no wall. Situation 2 is the future condition with an 8 foot wall. Exhibits H through I illustrate how the noise propagates from the courts.

5.0 Existing Noise Level

MD conducted baseline noise measurements approximately 50 feet from the courts with and without pickleball activity. Table 2 summarizes the findings. Two (2) of the four (4) courts were being used during the time of the measurement. Exhibit C illustrates the location of the measurement locations.

Table 2: Existing Sound Level Measurement Summary (dBA)

Location	Condition	Start Time	Leq	Lmax
50' from Court	No Players	7:34 AM	50	57
50' from Court	8 Players	7:38 AM	53	66

The average noise level at the court measured 50 dBA, Leq while no games were being played and an Lmax of 57 dBA (peak level). The average noise level at the court with eight (8) people playing measured 53 dBA, Leq with an Lmax of 66 dBA (peak level). It should be noted that the Leq is the average noise level over a given time and takes into account any other noise present at that time (ie: traffic, birds, and golfers) while the Lmax represents the instantaneous sound of the ball hitting the paddle at the measured location.

Modeled Existing Noise Levels

As described in Section 3.0 of this report, MD utilized SoundPlan to model the existing conditions. The existing operational noise levels were compared to the real-world noise level measurements to ensure accuracy. A total of one (1) receptor was modeled to accurately evaluate the existing condition and calculate future scenarios. The model incorporates reference pickleball court noise as outlined in **Section 4.0 SoundPlan Acoustic Model**. Exhibit D provides the average noise level (Leq) associated with each receptor and illustrates how the noise propagates currently from the site. Exhibit E provides the maximum noise level (Lmax) associated with each receptor and illustrates how the noise propagates currently from the site. Average noise levels associated at the adjacent receptor measured 52.7 dBA Leq. Maximum noise levels associated at the adjacent receptor measured 66.4 dBA Lmax.

Exhibit C
Measurement Locations

1 = 1 Min Noise Monitoring Location



Exhibit D
Existing Operational Noise Levels (Leq)

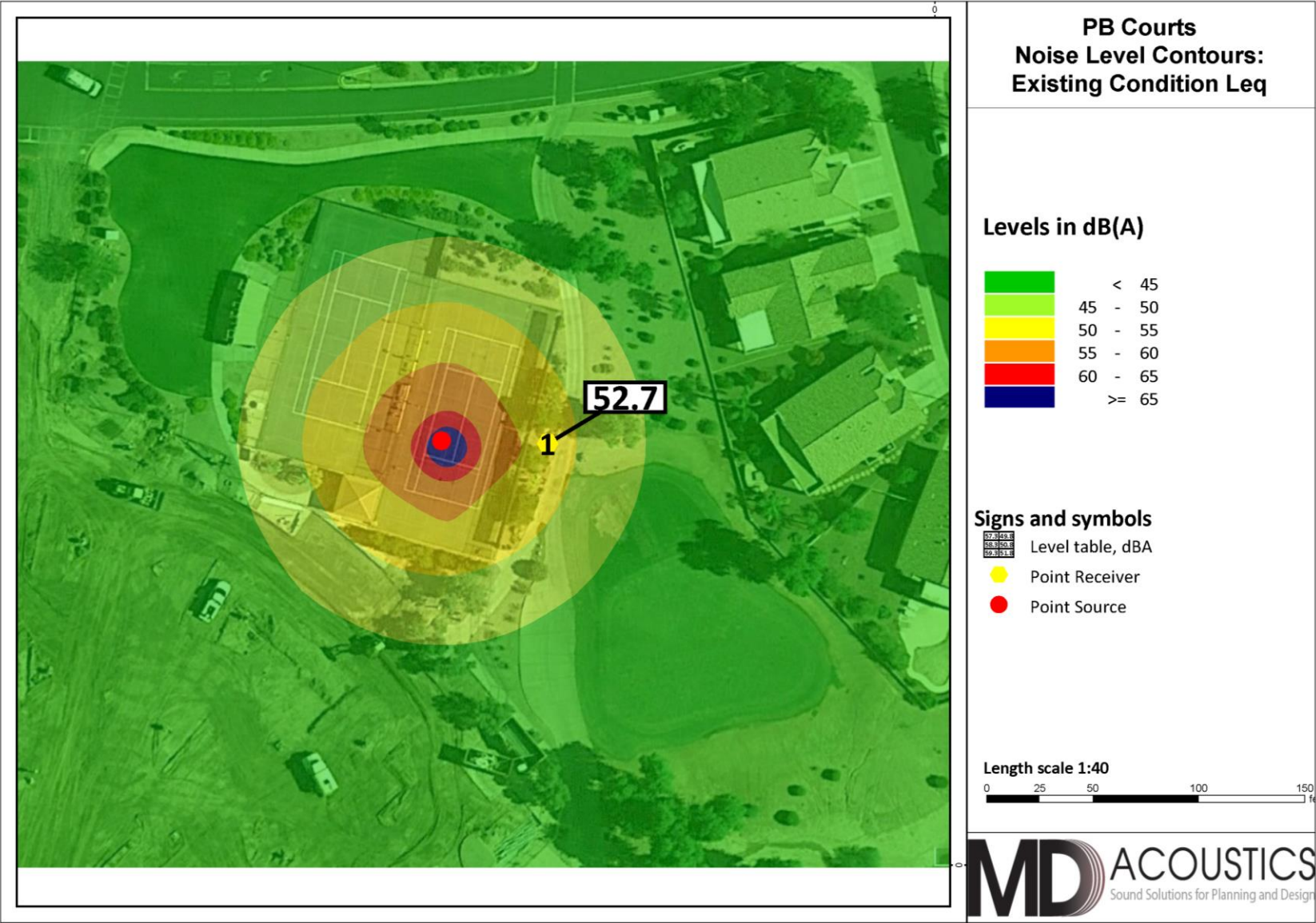
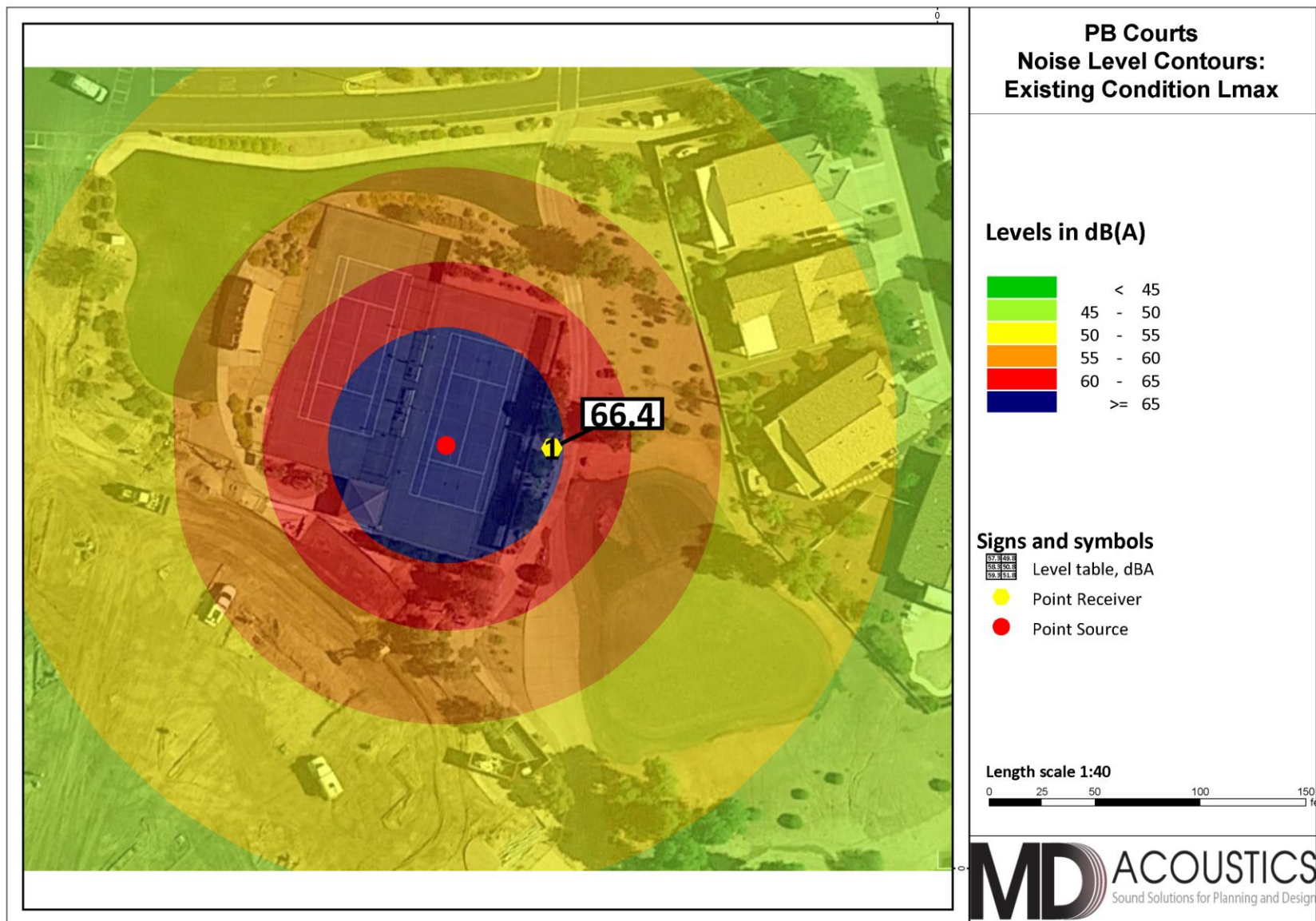


Exhibit E
Existing Operational Noise Levels (Lmax)



6.0 Findings and Recommendations

Table 3 summarizes the acoustically modeled scenarios for the future pickleball court conditions. The table summarizes how the noise changes based on the existing ambient plus the project (new pickleball courts) noise level. For simplicity purposes, MD has provided illustrations for a no wall scenario (Option 1) and an 8-foot tall wall scenario (Option 2). MD has previously evaluated the noise level difference for a 5, 6, 7, 8 and 9 foot tall noise wall. Based on the acoustic model, MD recommends an 8-foot wall as the optimum height. After an 8-foot wall the pickleball court noise reduction is less than 1 dBA per additional foot above 8-feet and therefore does not provide much more benefit when considering cost.

Table 3: Pickleball Court Noise Projection Summary

Receptor ²	Level	Existing Ambient Noise Level (dBA, Leq) ³	Project Noise Level (dBA, Leq) ⁴	Total Combined Noise Level (dBA, Leq)	Change in Noise Level as Result of Project
1	Floor 1	50.0	48.0	52.1	2.1
2	Floor 1		43.8	50.9	0.9
3	Floor 1		45.4	51.3	1.3
4	Floor 1		37.9	50.3	0.3
5	Floor 1		37.3	50.2	0.2
Notes: ¹ . Receptor locations are indicated in Exhibit E. ² . Receptors 1 - 5 represent existing residences. ³ .10 min noise measurements were conducted during the proposed operable hours to compare the baseline condition to the project plus ambient projections. ⁴ . See Exhibit E for the operational noise level projections at said receptors and incorporates an 8-foot tall CMU wall.					

According to the Option 1 (no wall) acoustic model the future pickleball noise does not exceed the daytime noise standard of 55 dBA at any of the adjacent residential property lines.

Exhibit F and G shows the future noise level projections (Leq and Lmax) for the pickleball courts with no wall. Option 1 shows the average noise levels will range from 37.3 to 56.4 dBA Leq, while worst-case instantaneous peak noise levels are projected to range between 51.0 to 70.1 dBA Lmax, depending on one location. It should be noted that the City's noise ordinance is based on a 15-minute average and not instantaneous noise levels. However, MD has provided the Lmax evaluation for explanatory purposes.

Exhibits H and I shows the future noise level projections (Leq and Lmax) for the pickleball courts with the incorporation of an 8-foot wall. Option 2 shows the mitigated average noise levels will range from 37.3 to 48.0 dBA Leq, while final peak noise levels are projected to range between 51.0 to 61.7 dBA Lmax.

As shown in Table 3, the existing noise levels are anticipated to change between 0.2 to 2.1 dBA, Leq at the adjacent sensitive receptors (residential units). As seen in Table 1 depending on the receptor location, the change in noise level would be "Not Perceptible" at the residences when comparing to the existing baseline condition.

Recommendations

1. MD recommends a 8-foot tall barrier/wall at the eastern edge of the proposed pickleball courts. The wall must have a surface weight of at least 4 pounds per square foot, however ideally the weight should be similar to a solid concrete masonry unit (CMU) wall with no gaps or cracks. The wall does not need to wrap at the end edges as this will not substantially further reduce the pickleball noise levels beyond what has been evaluated.
2. To mask the pickleball court noise the introduction of a water feature such as several water fountains/features can be implemented every 20 feet along the edge. White noise or broadband noise produced by running water will help mask the pickleball noise.

It is important to note that in all the options provided (above), the sound level would be reduced but would not completely stop the pickleball noise from being audible at said residences. In order to reduce the noise level below the audible range, the pickleball noise level projections would need to be approximately 20 dBA below the baseline condition (which is not feasible considering the proximity to the adjacent residences).

7.0 Conclusions

MD is pleased to provide this noise impact assessment for the Trilogy at Power Ranch Pickleball Court project. If you have any questions regarding this analysis or need further review, please call our office at (602) 774-1950.

Sincerely,
MD Acoustics, LLC

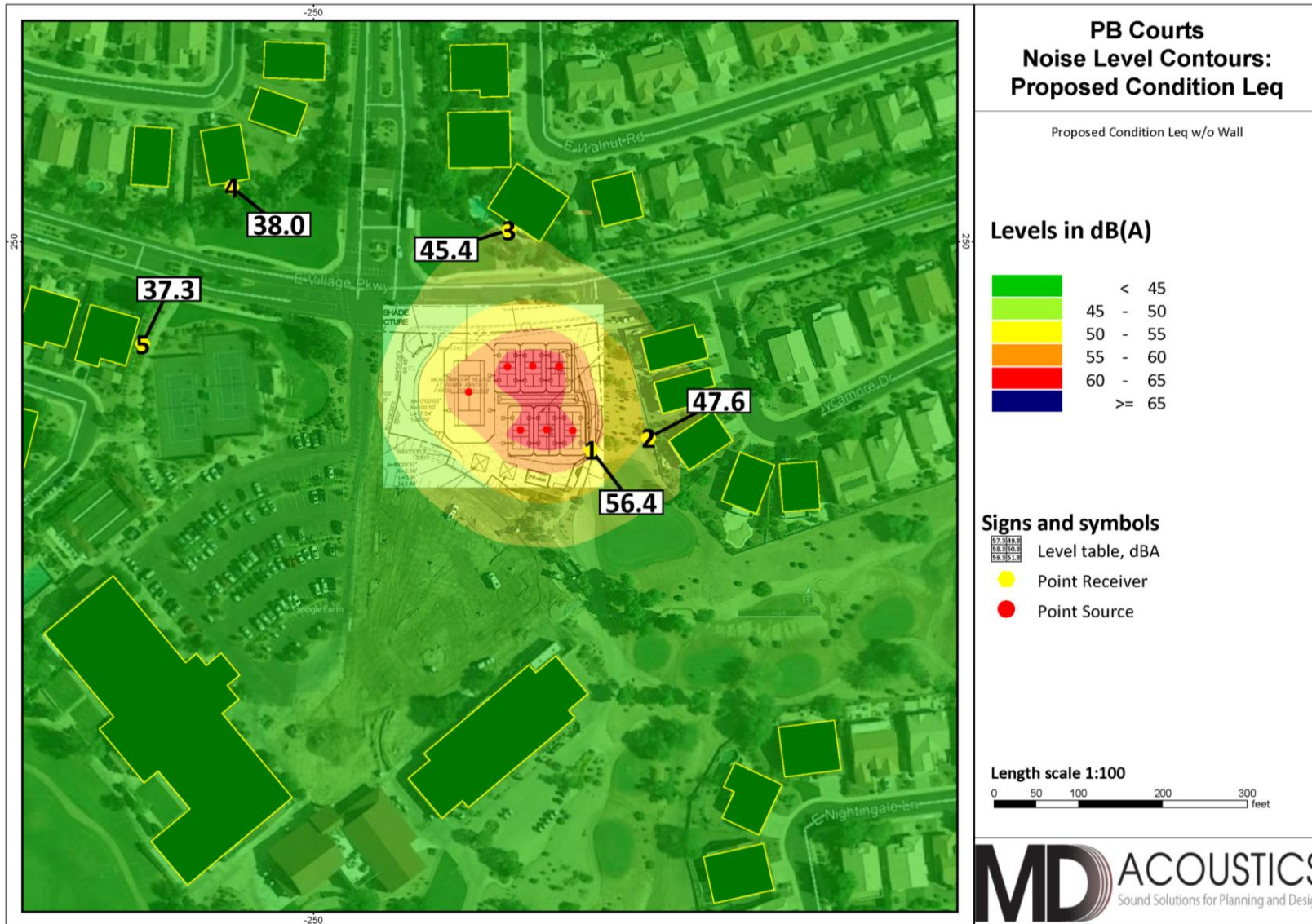


Mike Dickerson, INCE
Principal

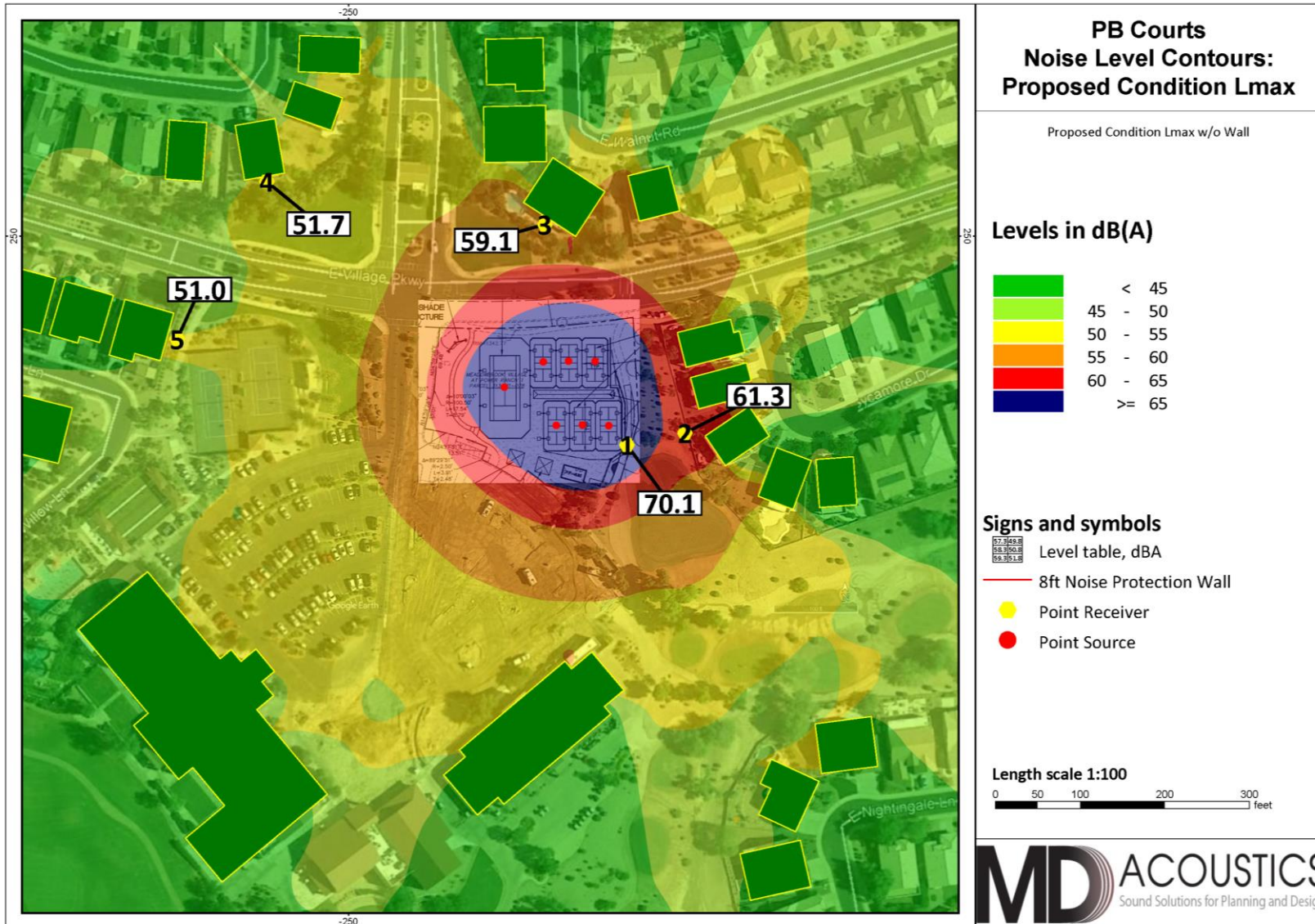


Robert Pearson
Acoustical Consultant

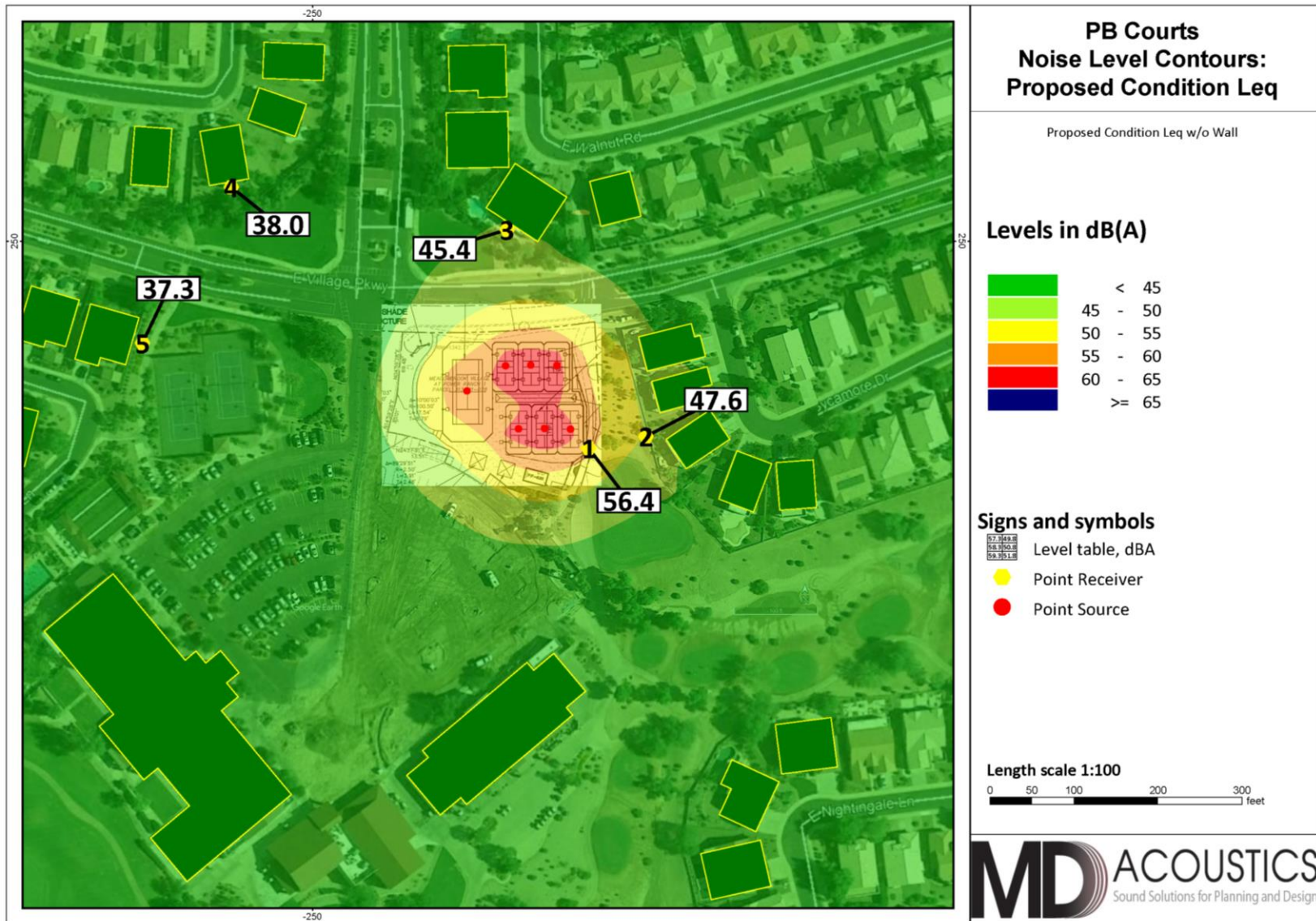
Option 1- Operational Noise Levels Leq (No Wall)



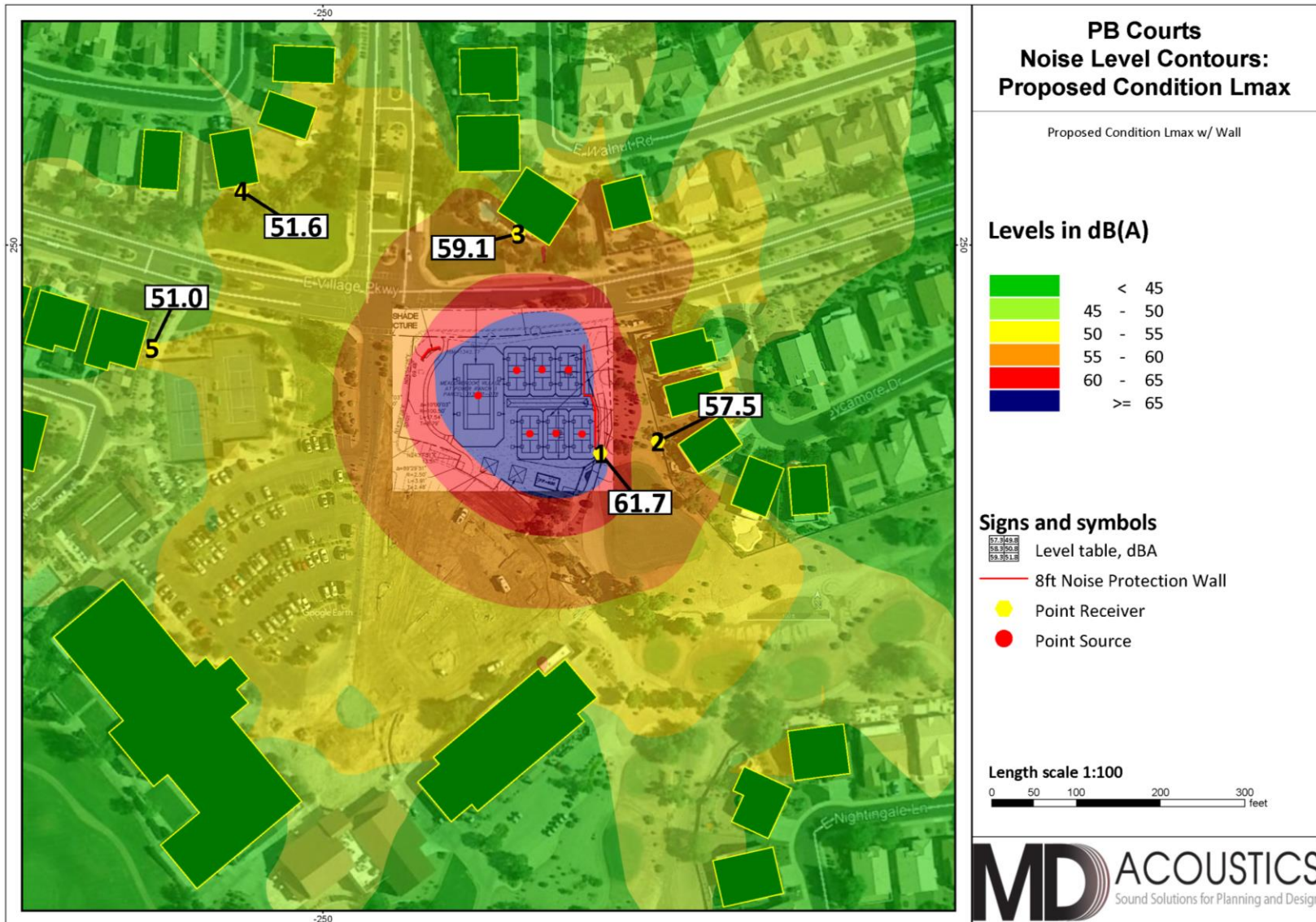
Option 1- Operational Noise Levels Lmax (No Wall)



Option 2- Operational Noise Levels Leq (8ft Wall)



Option 3 - Operational Noise Levels (Lmax)



Appendix A
Glossary of Acoustical Terms

Glossary of Terms

A-Weighted Sound Level: The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear. A numerical method of rating human judgment of loudness.

Ambient Noise Level: The composite of noise from all sources, near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

Community Noise Equivalent Level (CNEL): The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five (5) decibels to sound levels in the evening from 7:00 to 10:00 PM and after addition of ten (10) decibels to sound levels in the night before 7:00 AM and after 10:00 PM.

Day-Night-Level (DNL or LDN): The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of ten (10) decibels to sound levels in the night before 7:00 AM and after 10:00 PM.

Decibel (dB): A unit for measuring the amplitude of a sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micro-pascals.

dB(A): A-weighted sound level (see definition above).

Equivalent Sound Level (LEQ): The sound level corresponding to a steady noise level over a given sample period with the same amount of acoustic energy as the actual time varying noise level. The energy average noise level during the sample period.

Habitable Room: Any room meeting the requirements of the Uniform Building Code or other applicable regulations which is intended to be used for sleeping, living, cooking or dining purposes, excluding such enclosed spaces as closets, pantries, bath or toilet rooms, service rooms, connecting corridors, laundries, unfinished attics, foyers, storage spaces, cellars, utility rooms and similar spaces.

L(n): The A-weighted sound level exceeded during a certain percentage of the sample time. For example, L10 in the sound level exceeded 10 percent of the sample time. Similarly L50, L90 and L99, etc.

Noise: Any unwanted sound or sound which is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying. The State Noise Control Act defines noise as "...excessive undesirable sound...".

Noise Criteria (NC) Method: This metric plots octave band sound levels against a family of reference curves, with the number rating equal to the highest tangent line value as demonstrated in Figure 1.

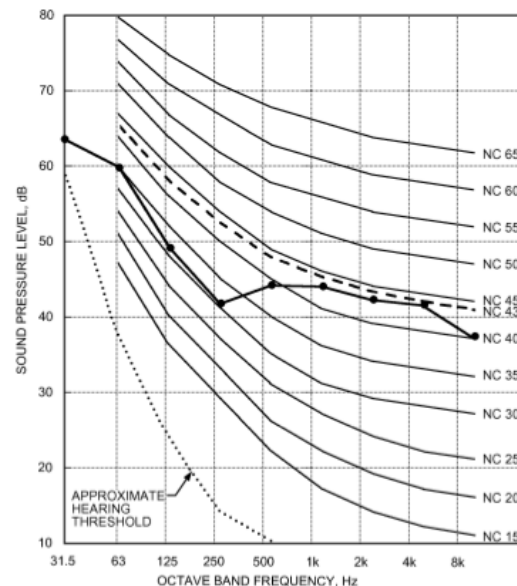
Percent Noise Levels: See L(n).

Room Criterion (RC) Method: When sound quality in the space is important, the RC metric provides a diagnostic tool to quantify both the speech interference level and spectral imbalance.

Sound Level (Noise Level): The weighted sound pressure level obtained by use of a sound level meter having a standard frequency-filter for attenuating part of the sound spectrum.

Sound Level Meter: An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels.

FIGURE 1: Sample NC Curves and Sample Spectrum Levels



Sound Transmission Class (STC): To quantify STC, a Transmission Loss (TL) measurement is performed in a laboratory over a range of 16 third-octave bands between 125 – 4,000 Hertz (Hz). The average human voice creates sound within the 125 – 4,000 Hz $1/3^{\text{rd}}$ octave bands.

STC is a single-number rating given to a particular material or assembly. The STC rating measures the ability of a material or an assembly to resist airborne sound transfer over the specified frequencies (see ASTM International Classification E413 and E90). In general, a higher STC rating corresponds with a greater reduction of noise transmitting through a partition.

STC is highly dependent on the construction of the partition. The STC of a partition can be increased by: adding mass, increasing or adding air space, adding absorptive materials within the assembly. The STC rating does not assess low frequency sound transfer (e.g. sounds less than 125 Hz). Special consideration must be given to spaces where the noise transfer concern has lower frequencies than speech, such as mechanical equipment and or/or music. The STC rating is a lab test that does not take into consideration weak points, penetrations, or flanking paths.

Even with a high STC rating, any penetration, air-gap, or “flanking path can seriously degrade the isolation quality of a wall. Flanking paths are the means for sound to transfer from one space to

another other than through the wall. Sound can flank over, under, or around a wall. Sound can also travel through common ductwork, plumbing or corridors. Noise will travel between spaces at the weakest points. Typically, there is no reason to spend money or effort to improve the walls until all weak points are controlled first.

Outdoor Living Area: Outdoor spaces that are associated with residential land uses typically used for passive recreational activities or other noise-sensitive uses. Such spaces include patio areas, barbecue areas, jacuzzi areas, etc. associated with residential uses; outdoor patient recovery or resting areas associated with hospitals, convalescent hospitals, or rest homes; outdoor areas associated with places of worship which have a significant role in services or other noise-sensitive activities; and outdoor school facilities routinely used for educational purposes which may be adversely impacted by noise. Outdoor areas usually not included in this definition are: front yard areas, driveways, greenbelts, maintenance areas and storage areas associated with residential land uses; exterior areas at hospitals that are not used for patient activities; outdoor areas associated with places of worship and principally used for short-term social gatherings; and, outdoor areas associated with school facilities that are not typically associated with educational uses prone to adverse noise impacts (for example, school play yard areas).

Percent Noise Levels: See L(n).

Sound Level (Noise Level): The weighted sound pressure level obtained by use of a sound level meter having a standard frequency-filter for attenuating part of the sound spectrum.

Sound Level Meter: An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels.

Single Event Noise Exposure Level (SENEL): The dB(A) level which, if it lasted for one second, would produce the same A-weighted sound energy as the actual event.